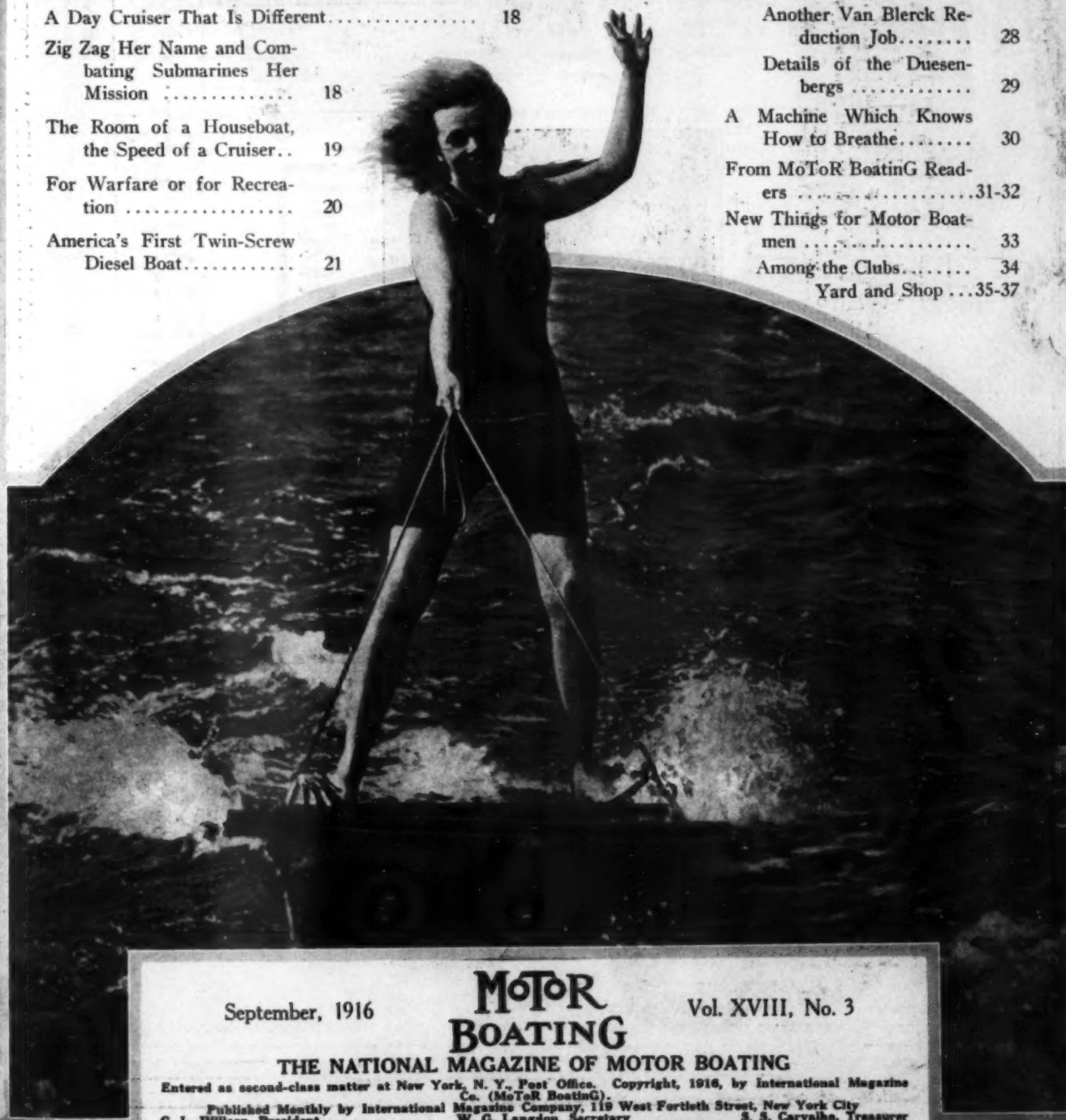


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September, 1916

**MOTOR
BOATING**

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NEW YORK CITY

WRITE TO US FOR DETAILS OF OUR YACHTS, LAUNCHES AND MOTORS

MOTOR BOATING

THE NATIONAL MAGAZINE OF MOTOR BOATING

Serving Uncle Sam

The Willingness of the Motor Boatman to Aid in Spite of the Navy Department's Failure to Co-operate—An Organization Which Could Be Made of Great Value to Our Government

By Commander Roger Upton, U. S. P. S.

As a preliminary, it should be remembered that the inception of the power squadron idea was solely for the benefit of the members of one yacht club. Its extension to national proportions was undertaken at the particular request of the Navy Department. The men who have so freely sacrificed of their personal time and pleasure to try to make the national organization a success would never have undertaken the task but for the encouragement and expressed wish of the Navy Department. If that Department now sees fit to refuse recognition of and support to the organization created in response to such wish, but elects to foster other movements and to proceed along other lines, no reproach can justly be attributed to the men who have so strenuously labored at what they were told would be of great assistance to our country. Incidentally, however, and apart from the Navy, those men have discovered that the power squadron idea has become of much benefit to the motor yachtsman, and of some assistance to the Department of Commerce and the Merchant Marine, from which we deduce that the idea will live and will expand irrespective of the Navy features.

The United States Power Squadrons can be of much service to the United States Navy. But such service, for at least several years, can be of greater value if developed along the ideas of the motor boatman and with reference to the real advantages of motor boats than if re-

An attractive 28-foot runabout which has been purchased by the Russian Government from the Water Craft Co. She is powered with a 32 h. p. "Rover" and has a speed of 23 m.p.h.

Photograph by Rosenfeld

stricted to the purely naval lines. Maneuvers with naval vessels, such as are contemplated for the week ending September 12 of this year, will probably be not as fully successful as could be hoped for. So far as made known to me, these maneuvers are planned rather too much on naval lines for the first attempt. With few exceptions I believe the motor boatmen are not yet ready to undertake such maneuvers on the lines planned, and cannot be ready without preliminary instruction.

To secure the best results there should be detailed to the power squadrons throughout the year a certain number of naval officers. These officers, directed and supervised by one of their number, should travel about to and with the local squadrons imparting uniform instruction. Each local squadron should be treated as a unit, and given by itself sufficient attention to insure fair proficiency. When that condition had been attained, then two or three squadrons should be grouped together for more advanced instruction. And finally when the groups had shown proper efficiency, the squadrons as a whole or by districts could be called out to maneuver with ships of the Navy. Such a series of steps would take time, the exact time being entirely dependent upon how the matter was handled. If conducted on purely naval lines, probably not less than two years would be required; if conducted on what I believe to be the proper lines, I feel sure re-

Over a year ago the Navy Department announced, after the repeated requests of the motor boatmen of the country, that steps would be taken to organize them to be of service to the Government for scout and patrol duty, searching for submarines, and the like. This announcement was received with a great deal of enthusiasm by the yachtsmen, and soon requests began pouring into the Navy Department for more definite information. This was promised, but has failed to materialize. The Government also assured the motor boatmen that they would be given a chance to get actual practice in work of this kind in connection with the civilians' cruise in September, but their failure to announce anything tangible, and their lack of knowledge of the requirements for this kind of service from a motor boatman's point of view, have led many who had desired to participate to make other plans. The training cruise, which might otherwise have been such a success and of immense value, is therefore likely to be made up of only a very small number of motor boats, most of which will be hardly suited to undergo the various performances which the Navy Department has outlined for the cruise.

If anything worth while is to be accomplished, it must be handled along definite lines of organization, and the only body so far organized along these lines is the United States Power Squadrons. Having been formed some four or five years ago before the preparedness question became an issue, it was based on fundamentals which assure it a long life. While not altogether naval or military in its purposes, yet it has these objects which could be readily taken advantage of by the Government if it would.—Editor.

sults could be produced within twelve months. The necessary expenditure for the travel of the naval officers would be money well spent by the Government if the desired results were reasonably certain. If the Government is seriously in earnest to secure the best possible reserve of qualified motor boatmen, it has the chance now to start right. Opportunity does not often repeat its visits, and, if not grasped at the time, is likely never again to call under the same favorable circumstances.

The average yachtsman is engaged in a business or profession that means bread and butter to his family and himself. He cannot, in time of peace, leave his occupation for a long time on short notice. Exigencies of the business, convenience of partners, associates or employers, must all be consulted and arranged for. It follows that extended absence has to be planned for several months in advance. In all plans intended to include the yachtsman, the Navy Department should bear that important fact in mind. This year that fact has been ignored. Definite plans of the motor boat maneuvers were not given out until August, and even at this writing are not fully announced. Most yachtsmen have, by August 1, either taken their vacations or planned for them. To expect those men, on a notice of one month, to be able to rearrange their plans so as to devote a whole week

(Continued on page 49)



Sunbeam II, one of the Power Squadron boats enrolled for the motor boat maneuvers in connection with the civilians' cruise. This boat is a 43-footer, recently built by the Gas Engine & Power Co. & Charles L. Seabury & Co., Cons., and is powered with a six-cylinder 6 x 6-inch Speedway motor. Sunbeam II is owned by R. B. Roosevelt, a member of the Potomac River Power Squadron.

With The New York Yacht Club Cruise



W. K. Vanderbilt, Jr., aboard his motor yacht *Tarantula* (circle), and Vincent Astor with a group of friends

SOCIETY, en masse, devotes one week of each fifty-two to the water, and this year on the New York Yacht Club's annual cruise a greater host than ever before turned out to pay its respects to Father Neptune. More than a hundred crack yachts of all kinds, bearing names that are known wherever yachting is enjoyed, and carrying aboard them men and women who wield the social and financial scepters of the western world, assembled at Glen Cove in the early part of August and proceeded by easy stages to Newport. During the day's runs, wind and sail pre-empted the center of attention, but in the evening motor power resumed its ascendancy, the high-speed tenders of the fleet carrying Society to and from the shore and darting in and out among the immobile parent vessels.

Vim, the speedy tender of

Commodore Geo. F. Baker, N. Y. Y. C.



Commodore Scott and Mrs. G. Henderson, and (insert) Vice-Commodore J. P. Morgan of the N. Y. Y. C.



Com. Geo. F. Baker's *Viking*, really started the ball rolling at the commencement of the cruise, for it was in this craft that the energetic commodore made sure that his fleet was in order. In addition, however, to the ubiquitous motor tender, a fair share of the palatial yachts present depend upon the savory gasoline for fuel.

Without the efficient motor tender the annual cruise of the New York Yacht Club would never have achieved its present popularity. A large proportion of the fleet itself was also motor powered

Practical Wireless for Motor Boats

What It Means to the Motor Boat Owner to Have His Craft Properly Equipped—The First of a Series of Articles on Its Possibilities to Appear in MoToR Boating

By A. C. Lescarboua

Associate Editor, Scientific American

THE yacht Vanadis lay at anchor in the picturesque harbor of Tampico, Mexico, during a typical tropical evening. The many guests on board, although enjoying to the utmost their cruise through the wonderful Caribbean Sea and the Gulf of Mexico, felt perhaps a little homesick. They were wondering, while sitting around on the deck of the yacht, how things were at home—New York, Newport and Palm Beach, perhaps. The male members of the party, accustomed to reading the news of the world every day of the year, experienced some slight irritation at not having before them this news and the stock exchange reports and the baseball scores.

Suddenly there came among them the wireless operator, for this vessel carries a wireless equipment.

"Here are the baseball scores, gentlemen; I have just received them from Manhattan Beach," he said in a modest tone. To him it was nothing unusual to have receive "press" over a distance of some 2,000 miles—from the far-off wooden shack that served as a wireless station in a swamp near Manhattan Beach. "And," he added, "if you gentlemen wish, I shall be able to give you the leading stock quotations and the leading press items in an hour's time. The operator at Manhattan Beach has a few messages to handle now, after which he will resume his press dispatches."

This is not an imaginary story. It is absolute fact, although in all likelihood the conversation recorded here never occurred in just those words. But at any rate, it serves to illustrate the enjoyment derived by a yacht owner who had the foresight to install wireless apparatus primarily for safety's sake, perhaps, and secondarily for the pleasure it affords him. To this yacht owner it means that he has ever an invisible link with home, no matter whether he be in some uncharted inlet along the coast of Labrador or up the Amazon River, surrounded by dense, impenetrable jungles. The wireless outfit permits him at all times to feel the pulse of the world, no matter where he may be at the time.

True it is that Vanadis is a big boat, fully as large as many coastwise steamers. She carries a wireless equipment rated at 2 k.w., which means in the language of the layman that her operator, under favorable conditions, can transmit messages over a distance of some 500 miles, and receive messages over double that distance. But wireless apparatus is practicable even on 30-foot cruisers, although it is obvious that the equipment available for such small craft must necessarily have a range rated in miles instead of tens of miles. Even so, a range of twenty to thirty miles for the sending equipment and 100 to 200 miles for the receiving apparatus is sufficient fully to enjoy the pleasures and protection that go along with the possession of a wireless station on shipboard.

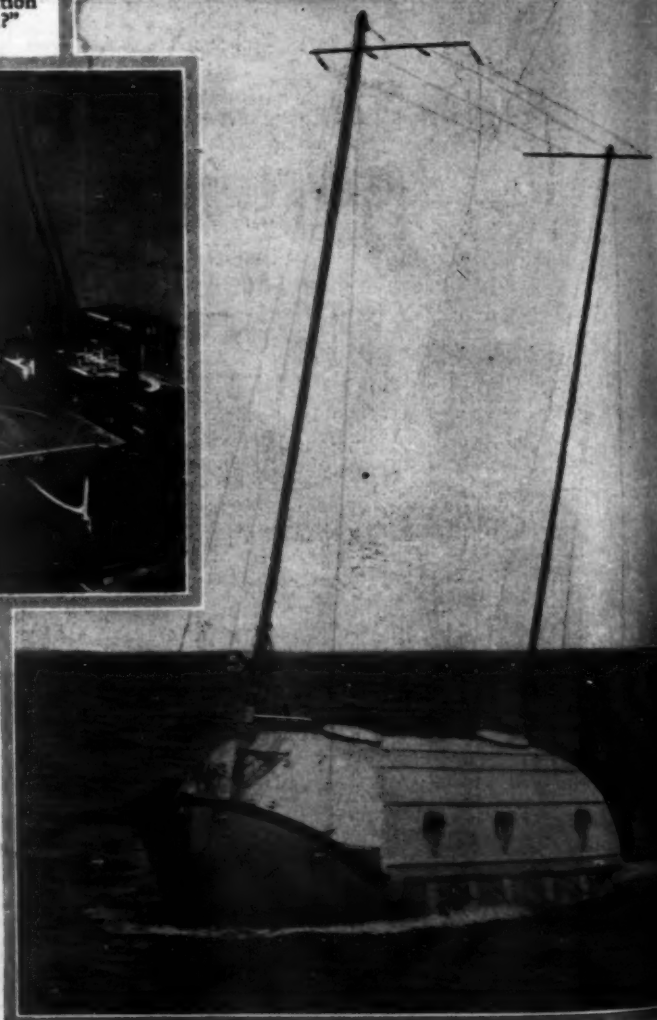
It is a delusion, a grave delusion, to consider a wireless station as a complicated and expensive addition to any craft. The appa-

"Is it possible to overestimate the convenience of a Postal Telegraph or Western Union Station on board your motor boat?"



A wireless transmitting and receiving set need not take up more room than would be required for a small tool chest—four cubic feet the maximum

ratus in its present state of development is at once simple and inexpensive. The fact that there are to-day thousands of boys in our country operating wireless sets in their homes should prove the fallacy of the intricacy of wireless apparatus belief. As for expensiveness, a simple receiving set represents the cost of the cheapest phonograph worthy of the name, and a half dozen records. Like the phonograph, it is a constant source of amuse-



A Lundin lifeboat which was equipped with a highly efficient wireless set

ment, but like nothing else it is ready to serve in the event of accident.

A wireless station on shipboard consists in the main of four items: first, the system of wires strung between the vessel's masts, which is known as the aerial or antenna; second, the connection with the water, which is known as the ground; third, the transmitting apparatus; fourth, the receiving apparatus. Distinct classifications are given the receiving and transmitting apparatus for the reason that one may be used without the other. The boat owner, at the start, may wish to install only a receiving set, later installing a transmitting equipment to complete the station and derive the fullest benefits of wireless equipment. But under no circumstances would he install a transmitting set alone. What would be the use of "talking" if he could not hear an answer? To "hear" without "talking," however, is perfectly natural, and in amateur wireless it is the rule rather than the exception to install a receiving set only.

The aerial or antenna consists of two or more wires stretched between two cross sticks or "spreaders." While it is advantageous to have two masts between which to stretch the aerial, still, in the case of a single-masted cruiser, the wires may be spanned between the

top of the single mast and a short pole on deck or the stern staff. The wire used may be phosphor-bronze, copper or aluminum. The first is preferable by far, and is used before all others for commercial and Government work, despite its somewhat high cost. It is capable of being soldered with ease and will withstand well the corroding action of the salt air. Copper, while readily soldered, is affected to a greater extent than the phosphor-bronze wire, although to no such extent as the aluminum. The only advantage claimed for the latter is relative cheapness, although the boat owner contemplating a permanent wireless installation will do well to limit his choice to phosphor-bronze and copper.

The aerial wire used is of such small diameter that the network does not detract from the appearance of any craft. Neither is it in the way if properly installed, because the wires are elevated sufficiently to span all objects and passengers on the deck of the craft.

The ground connection is not as great a problem as the aerial, although it must be a good electrical connection with the water. It can usually be made by using a special clamp that fastens to the water intake pipe of the engine or, in the case of a metal boat, right

on the hull by soldering the wire directly to one of the steel plates.

The aerial and the ground connection are the two most troublesome features—if not the sole troublesome features—of a wireless set on shipboard. Once these are taken care of, the rest is simple. As for space, a wireless transmitting and receiving set need not take up more than the room that would be required for a small tool chest, say two cubic feet. Of course, in this limited space the apparatus will necessarily have to be exceedingly compact, but even by spreading the instruments the space required need not surpass three or four cubic feet.

Again let us return to the comparison between wireless apparatus and phonographs. Wireless apparatus, not unlike phonographs, comes in all varieties and sells for all prices. A receiving outfit costing \$1 complete will receive wireless messages, just as a phonograph costing \$1 will play a record so that the issuing sounds may be recognized as music. But the more elaborate and costly wireless set, operating at the same time on the same aerial and ground system, will not only bring in the signals, heard on the small set, several times louder and more distinct, but it will bring in many other signals that cannot be heard at

all with the cheaper set. Come back again to the phonograph: An instrument costing \$150 will get much more out of the record previously played on the dollar machine; and sounds that were either indistinct or absolutely inaudible are now immediately recognized as the soft notes of the violoncello, oboe and the other rich but soft tones that blend together in the harmonious background of an orchestral selection. Then again in a wireless set the higher its cost the more refinements it will include.

It should be evident from what has just been read that wireless apparatus are obtainable in a wide range

The proper arrangement of the aerial wires on a motor boat. If necessary, the stern staff may be used for the after spreader

of types, and that complete sets can be purchased at any price that may fit one's pocketbook.

Perhaps the small boat owner would better content himself with a simple receiving set as a starter, for before he can enjoy a wireless set it is necessary for him to master the code in which wireless messages are sent. Otherwise, a receiving set simply enables the hearing of long and short buzzes, which mean absolutely nothing to the uninitiated. How would you enjoy receiving a Chinese message by telephone? That is precisely the situation confronting a person having no knowledge of the code

(Continued on page 50)



Wireless set, operated from current generated by a dynamo belt-driven off the engine flywheel

Picking Locks on

The Canal Trip Through New York State of Unusual Interest to the Motor Boatman

By E. W.

THE canals in the central and northern part of New York State and the waters they interconnect afford some of the most fascinating cruising routes, and the enormous amount of work now under way for improving these canals is a boon to motor boatmen.

The engineering features of the new barge canals are alone worth seeing. They are not generally appreciated, nor is it the purpose of this article to elaborate upon them. But as compared with the Panama Canal, the engineering developments have been greater and the cost practically the same. The Panama Canal is built through 50 miles of undeveloped country. The New York Barge Canal has 440 miles of new construction, some of which is through cities, with 350 miles of connecting lakes and rivers, which have to be dredged and provided with barge terminals—or a system 790 miles in length.

The motor boat starting from New York City and running up

One of the bridges over the new Erie Barge Canal, showing marks on the abutments between which it is proper to pass. All bridges on the barge canal are of the fixed type to permit a clearance of fourteen feet above the water. Below is shown a portion of the new canal as it passes through Little Falls



A picturesque spot along the banks of the old Erie Canal

the Hudson River enters the canal system at Troy through Lock No. 1 or the "new sloop lock." This is merely a lift above the Federal dam across the Hudson River, but after a short run of three and a half miles one enters the flight of five locks at Waterford which, together, give a lift of 168 feet in about a mile and a half.

Any of these locks will be operated at any time of the day or night for anyone having a permit. It really seems wasteful to see one of these enormous locks, capable of taking a boat 328 feet long by 45 feet beam and with a 12-foot draft, open for a motor canoe, thus displacing in some locks over four million gallons of water.

the Empire Canals

Seven Hundred and Ninety Miles of New Barge Canal Available for Motor Cruisers

Marshall

The lock tenders expect to hear three blasts of the whistle from any boat which is to pass through. The attendants are uniformly courteous and obliging, and their telephone system is a great convenience, for they send word ahead that a boat is coming so that the lock will be ready when one gets to it.

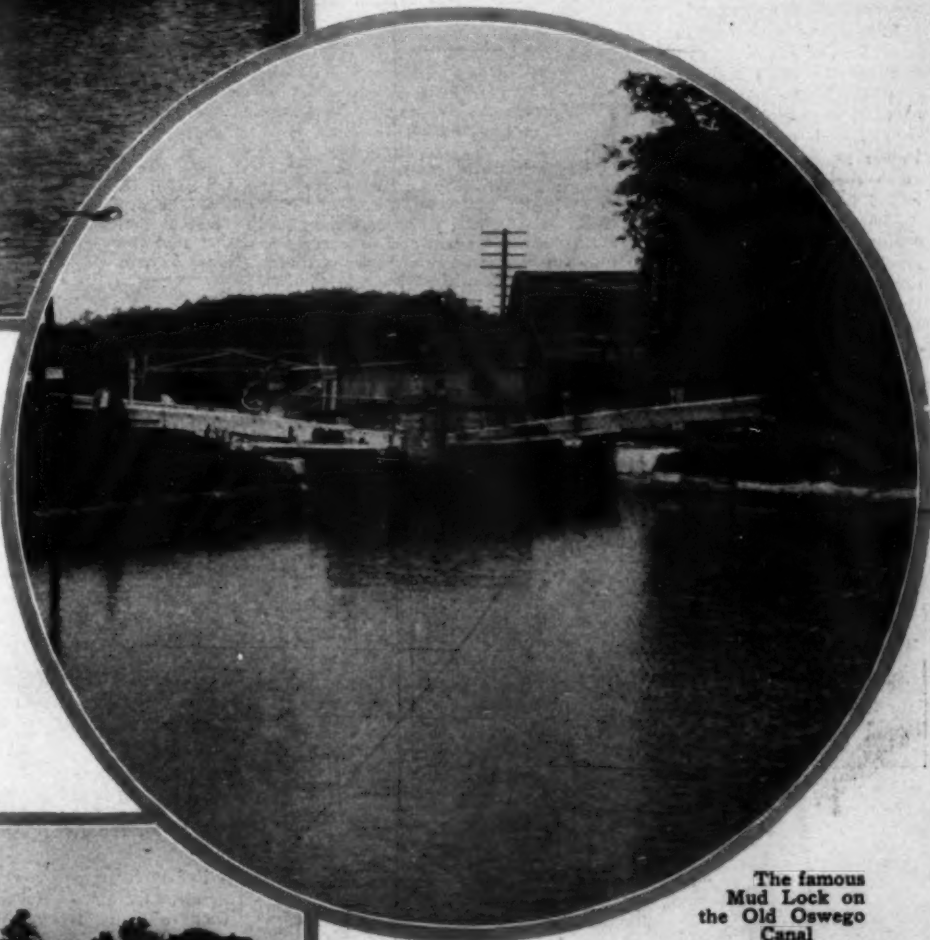
The locks are operated and lighted by electricity, so that in spite of their huge size as compared with the old canal locks, it only takes twenty minutes for a boat to pass through. The gates at both ends of each lock are kept closed when the lock is not in use as a "safety-first" provision. The fact that the gates are closed is indicated by a red light which automatically changes to green when the gates are fully open. Another set of indicator lights at each end of each lock is one of four placed vertically. The lower lamp is blue and when lighted means that the valves are closed. When the 7 h.p. valve-actuating motor is started, the second light, a white one, is illuminated when the valve is one-third open; the next when it is two-thirds open; and the upper one when it is fully opened, the four signals then being illuminated.

In the side walls of the locks are ladders and snubbing posts. When going up a lock it is well to run ahead and, from a point



A new lock on the Erie Barge Canal. The cruiser passing through is Fandango, a Hand 32-footer, and its relative size gives one an idea of the proportions of the new canal. Even these mammoth gates will open any time a motor boat desires to pass through them

The required permits are issued upon request, and without fee, by the Commissioner of Public Works at Albany. The use of the canals for pleasure boats is a concession, although they outnumber all other craft. The permit states the conditions imposed upon those using the canals. One of these is that the speed in the old canals shall not exceed 4 miles per hour, this rule being made to prevent washing down the bank, but in the new sections a speed of 10 miles per hour is permissible.



The famous Mud Lock on the Old Oswego Canal

amidships, grasp the ladder on the side opposite the lock tender so that he may see you. Then it is very easy to fend off the bow and stern. A hook suitable to engage the rungs of a ladder, fastened to the end of a short line, is a convenient device to use for this ladder climbing. It is needless to say that fenders are very necessary parts of the equipment. The water is admitted through the bottom of the lock so that no bad eddy currents are formed.

In going down it is still easier. The lock tenders ask you to give them a bow and stern line, each of which must be at least fifty feet long. A loop spliced in the end of each, large enough to go over a twelve-inch snubbing post, will be appreciated by the attendants.

The electrical energy for actuating the lock gates, valves, capstans and lights, is in most cases generated at the locks, either

(Continued on page 52)

Tibbets Point on Lake Ontario at the entrance to the St. Lawrence River

Shall I Fly the Colors of My Country?

As the Law Stands To-day Few American Boats are Displaying the National Flag—
What is Likely to Happen if the Bill Now Before Congress Passes

By Alan O. Clephane

Photographs by Charles F. Chapman

AMONG the thousands of motor boatmen who fly the yacht ensign on their boats every day, it is probable that scarcely one can be found who knows anything about its origin or history, or the law governing its use. It seems to be a popular impression that yachts of 16 tons or over, or more than 65 feet in length, are required to fly the yacht ensign at the flag staff aft. Many members of the United States Power Squadrons, for instance, who own yachts of the class above referred to, have been at a loss to know where to fly their Power Squadrons ensign. Furthermore, numerous articles have appeared in the press condemning the Power Squadrons members for substituting another flag for the stars and stripes on their boats. As a matter of fact, your club flag or private signal as well as the Power Squadrons ensign is as much the stars and stripes as is the yacht ensign.

Almost three-quarters of a century ago the sport of yachting had attained such proportions that the Congress of the United States (which more recently has become so fond of regulating business of all

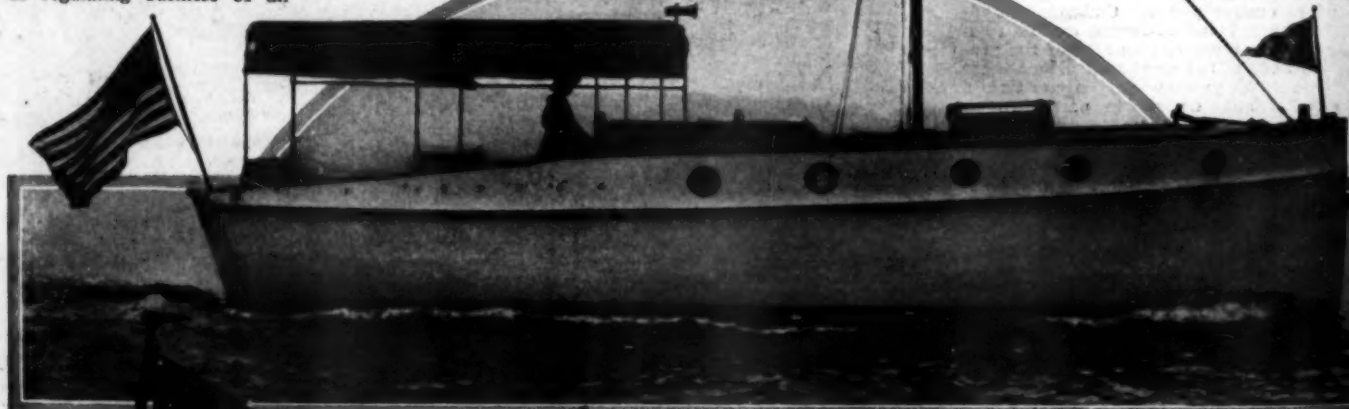
By referring to the original law passed at the time the yacht ensign was adopted it appears that the framers of the bill did not intend that the yacht ensign should supplant the national ensign on American yachts. While the law is not altogether clear in this respect, yet it is certain that the yacht ensign is not a national flag. Consequently the motor boats and other yachts of the country are not displaying the colors of their country, although they probably do not know it. Power Squadrons members under these conditions are justified in displaying their Power Squadrons ensign aft, and the highest authorities in the Navy Department and the Department of Commerce have gone on record of approving of this practice. This ensign was originally intended to be an outward and visible mark that the yacht on which it was displayed was in charge of a competent navigator and owned by a yachtsman who was endeavoring to fit himself to be of possible service to his country in time of need.

That the yacht ensign is not the American flag is emphasized by a bill now before Congress, making it a misdemeanor for any vessel to fly from the peak or flag staff aft any flag but the American national ensign. If this bill passes, the yacht ensign which has been flown on pleasure boats since 1849 will be relegated to the rag bag, or else some other position must be found from which to fly it. Yachting etiquette at the present moment provides no place for the yacht ensign other than the stern staff. If its position is changed, then the club burgee, private signal, or officer's flag will necessarily be discarded. The Power Squadrons ensign will have to be flown forward, or from the spreader, which is contrary to all yachting practice.

MoToR Boating believes that every yacht should fly an American flag, but is of the opinion that this should be done by passing legislation which would authorize the yacht ensign, as well as the Power Squadrons ensign as national colors, rather than by legislation which will eliminate both. Nearly every other country on the globe has several ensigns, each intended for a specific purpose. British yachtsmen, for example, deem it a great honor to be permitted to fly the blue ensign of Great Britain, and yachtsmen members of certain Canadian clubs are permitted to carry the emblem of their club surmounted on one corner of their national flag, as a mark of distinguished honor.—Editor.

authorize the Secretary of the Treasury to license yachts and for other purposes" (9 Stat. L., 274) providing for the enrolment and licensing of yachts, and exempting them from entering and clearing at Custom-houses; and in order that yachts might be recognized as such, the third paragraph of this Act provided "that all such licensed yachts shall use a signal of the form, size and colors prescribed by the Secretary of the Navy," etc. This paragraph has been subsequently re-enacted as Sec. 4215, Revised Statutes of the United States.

It was, therefore, natural that, pursuant to the power thus vested in the Secretary of the Navy to prescribe the signal to be carried by yachts, he should even in those days turn to the New York Yacht Club as the foremost authority on yachting; and on August 26, 1848, requested that organization to suggest such signal. The Yacht Club accordingly appointed a committee, which must have met several times and carefully



If the bill now before Congress, making it obligatory to fly the national ensign at the stern, passes, the yacht ensign will have to be flown at the mast head, and probably the club flag at the bow. No position is left for the owner's private signal or officer's flag

kinds) had under consideration the question of distinguishing in some manner boats used solely for pleasure from other vessels engaged in purely commercial pursuits. The result was that on August 7, 1848, the Congress passed "An Act to

considered the matter, for it was not until the following January that final action was taken. A copy of the resolution then adopted was sent to the Secretary of the Navy as follows:

"NEW YORK YACHT CLUB,

"New York, January 9, 1849.

"At an adjourned meeting of the committee appointed by this Club to prepare a flag to be forwarded to the Secretary of the Navy, it was resolved that the American Ensign with the addition of a foul anchor in the Union be adopted, and the flag adopted be sent to the Honorable Secretary in compliance with his request under date of 26th August, 1848, for his approval.

"(Signed)

G. R. I. BOWDOIN,

"Recording Secretary."

The Navy Department acknowledged the receipt of this communication and approved the design thus submitted as follows:



The national ensign, affectionately referred to as the stars and stripes, or Old Glory. The only American ensign which we have

"NAVY DEPARTMENT,
"February 21, 1849.

"Sir:
"The design of a flag prepared by a committee of the New York Yacht Club, transmitted to this Department with your communication of the 9th January, ultimo, is approved.
"I am respectfully,
"Yours,
"(Signed) I. Y. MASON.

"G. R. I. Bowdoin, Esq.,
"Recording Secretary,
"New York Yacht Club,
"New York."

For some reason, however, the signal thus adopted does not appear to have been communicated to the Treasury Department, for some seven months later the then Secretary of the Treasury wrote:

"TREASURY DEPARTMENT,
"September 23, 1849.

"Sir:
"I have the honor to call your attention to the provision of the Act of Congress approved 7th August, 1848, entitled, 'An Act to authorize the Secretary of the Treasury to license yachts and for other purposes,' which provides in its third section that all such licensed yachts shall carry a signal of the form, size and colors prescribed by the Secretary of the Navy, &c.

"This Department as authorized by that law is about to prepare a form of license for vessels of the description referred to, and is desirous of knowing what signal, if any, has been prescribed by the Secretary of the Navy under the above cited act, as it will be necessary to insert a specific description of it in the instructions to the Collectors of Customs.
"I have the honor to be very respectfully,

"Your obedient servant,
"(Signed) W. M. MEREDITH,
"Secretary of the Treasury.

"Hon. W. B. Preston,
"Secretary of the Navy."

In reply the Secretary of the Navy sent the following letter:

"NAVY DEPARTMENT,
"September 28, 1849.

"Hon. W. M. Meredith,
"Secretary of the Treasury.

"Sir:
"In reply to your letter of the 25th instant, I have the honor to inform you that under the provisions of the third section of the Act of Congress of 7th August, 1848, this Department has approved a flag or signal adopted by the 'New York Yacht Club.'

"Transmitted herewith for your information is a description of the flag, together with a copy of the letter of approval of the same, dated 21st February, 1849.

"I have the honor to be very respectfully,
"Your obedient servant,
"(Signed)
"WM. B. PRESTON,
"Secretary of the Navy."

The description of the signal, together with the approval referred to in the second paragraph of this letter, has already been quoted above.

Thus the flag which we have all come to know so well as the yacht ensign had its origin.

The club burgee which belongs at the bow staff of motor craft. Often one sees the Union Jack flying forward, when the boat is under way, but this is a sign of commercial craft and dead wrong on pleasure boats.

Ever since its adoption it has been customary to display this flag from the flag staff aft on steam or (latterly) motor yachts, and at the peak on sailing yachts; and the rules of all yacht clubs that refer to this subject, so provide. This custom doubtless originated because the yacht ensign is so similar to the American national ensign, the only change being in the union, that it was simply substituted there-

for. But in this connection it is interesting to note that Paragraph 3 of the Act of 1848 provides that "licensed yachts shall use a signal" (not an ensign) "of the form, size and colors prescribed"; and it has recently been seriously contended by at least one high Government official that it was never the intention of the Congress that the yacht ensign should be flown as an ensign, but that it should be displayed as a signal from the masthead, as is the Coast Guard ensign on cutters of the Coast Guard—notwithstanding the fact that the Act of March 2, 1799 (1 Stat. L., 700; Sec. 2764, R. S. U. S.), provided that the President shall prescribe an "ensign" for use on cutters and boats employed in the service of the revenue, now the Coast Guard.

Indeed, this contention has been urged so seriously, that on May 12, 1916, Hon. John F. Carew, of New York, introduced the following Bill in the House of Representatives of the United States (H. R. 15618, 64th Congress, 1st Session), which was referred to the Committee on Merchant Marine and Fisheries:

"A BILL

"To amend section forty-two hundred and fifteen of the Revised Statutes of the United States, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no vessel documented under the laws of the United States, or if owned by a citizen of the United States and navigating the waters of the United States and not entitled to be documented, shall fly from the peak or flagstaff aft any flag but the American national ensign; and for every violation of the provisions of this section the master, owner, or person in charge of the offending vessel, shall be deemed guilty of a misdemeanor and be subject to a fine not exceeding the sum of \$500 for each offense, or imprisonment not to exceed six months, or both."

If this bill should be—
(Continued on page 54)



Two views showing how absurd a boat will look if it is required to fly the yacht ensign in addition to the national ensign. The yacht ensign will either have to be hoisted on the spreader or at the masthead and the owner's private flag, club burgee and Power Squadron ensign will have to be taken care of as best they can



Race Week on the Delaware

A Combination of Cruising and Racing Events Which Attracted a Large Fleet—The Delaware River Yacht Racing Association Again Succeeds in Its Plans

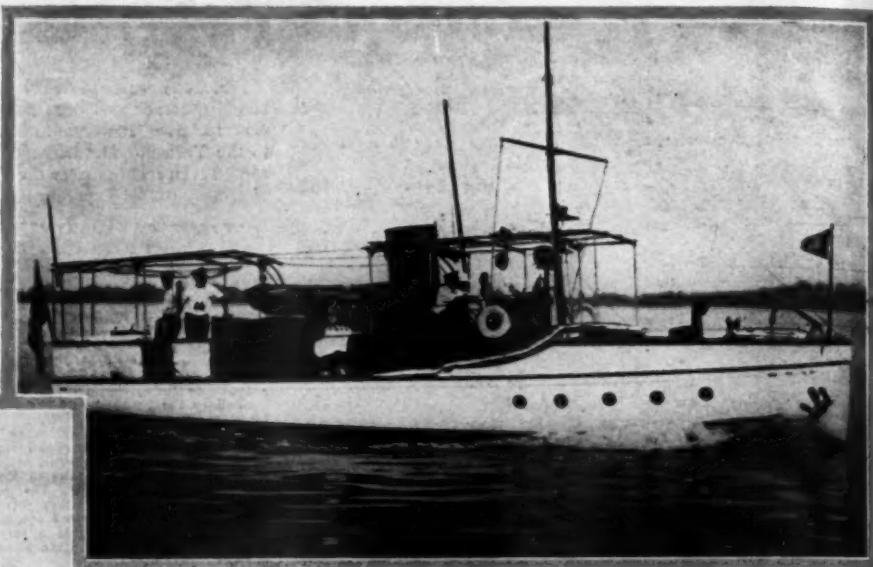
Photographs by Pearce

By E. C. Headley

Chairman, Racing Commission, A. P. B. A.

VARIETY is the spice of motor boat racing, and the Delaware River Yacht Racing Association is indebted to its president, Commodore A. B. Cartledge, for the idea of combining all the big Association races into a week's event under the title of "cruise race." This title covered so many miles of real pleasure, combined with racing, that it will always be remembered with many a pleasant thought by all who were fortunate enough to participate.

Friday evening, July 28, found most of the racers anchored at the Keystone Yacht



Jules Levy's Bedouin, Class A champion of the Delaware River, and point winner in the "cruise race"

third. Only two boats started in the glass cabin event, P. Hansen's Mermaid, of the Riverside Club, defeating W. Leech's Wahnetah, of the

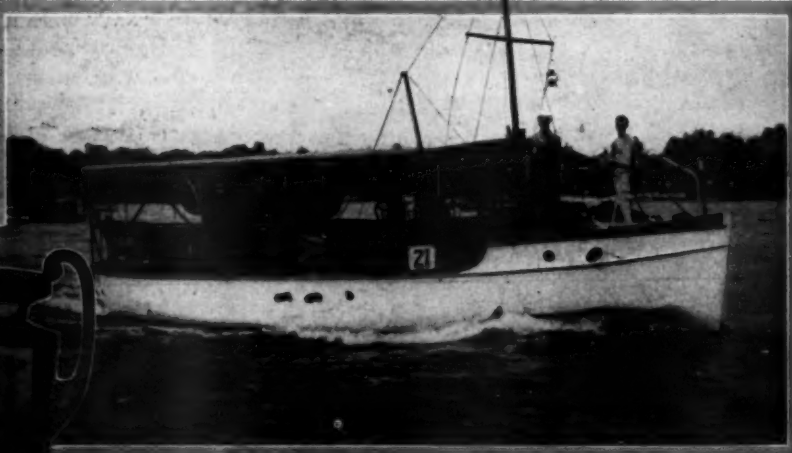
Anchor Club. The open boat event was won by L. Steinhäuser's Grey Hound, en-
(Continued on page 49)



Dora II, owned by Bruno Arishoff, which carried the Coxe Hall trophy from the coast to the Riverside Y. C.

Club, Tacony, Philadelphia, with their crews ashore enjoying a fine band concert, and here for the first time in the history of motor boat racing in these waters it was noticeable that the wives and daughters of many of the boat owners were going along to enjoy the great sport so long denied them.

On Saturday morning the crews were tendered a breakfast by the Keystone Yacht Club, and then immediately went aboard of their respective boats ready for the starting gun. The first leg—Keystone to Salem—consisted of races sanctioned by the Racing Commission of the A. P. B. A., under the following titles: Handicap Cruiser Championship of the Delaware River, Handicap Glass Cabin Championship of the Delaware River, and Handicap Open Boat Championship of the Delaware River. The cruisers raced in two classes, A and B (Class A—rating 30 to 40; Class B—rating over 40), over a 50-nautical-mile course, and started in accordance with their respective handicaps. Six racers started in each class and the finish for place in each class proved very close. All the honors in Class A went to the Riverside Club, as the three prize-winners sailed under the colors of this club. J. Levy's Bedouin defeated B. Arishoff's Dora II on corrected time by 39 seconds, while W. McNamee's Naomi was a close third. In Class B Riverside again carried off two prizes—first and second—L. Sommer's Liwaso winning first and Eva Dor second, W. Yeo's Margaret, entered from the Camden M. B. C., finishing



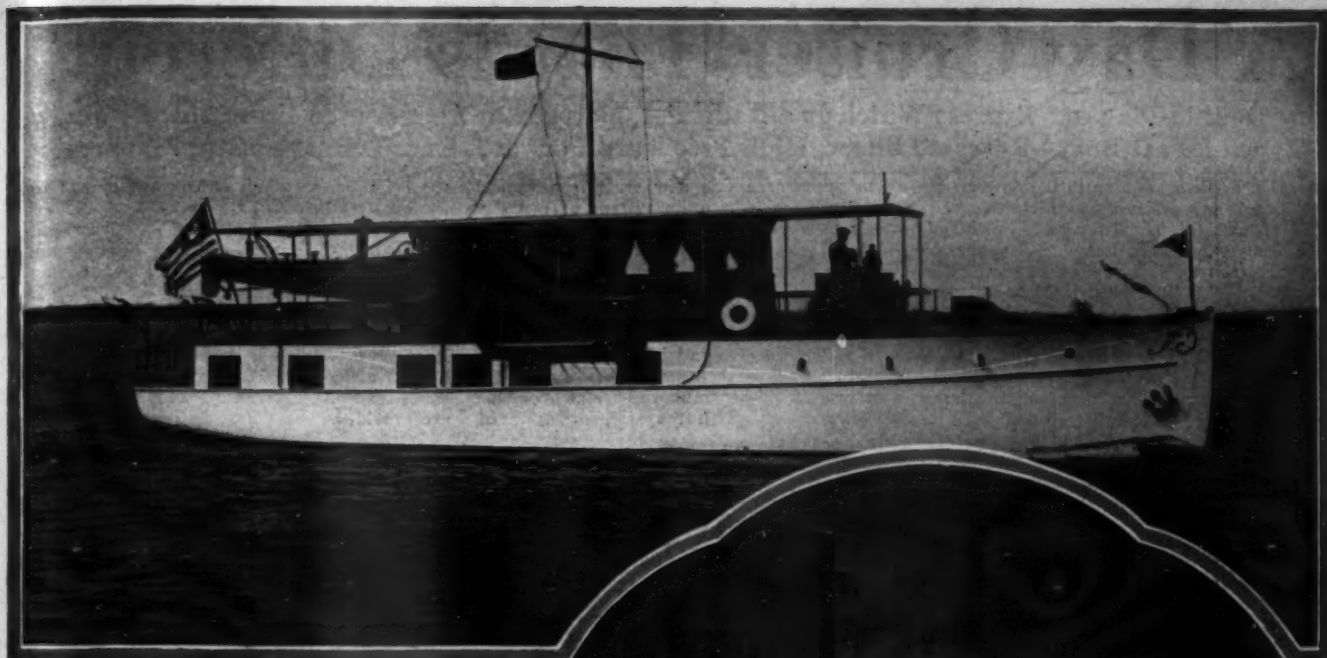
Frances II, owned by C. Steigerwald, a Keystone yachtsman, made the best elapsed time for the entire cruiser fleet



The Coxe Hall trophy



Bridge of Marguerite II, with the racing committee on the job. Mr. Headley has the watch—and the cigar



Lomado is a new 69-footer owned by Dr. Frederick T. Rogers, of Providence, R. I., and powered with a six-cylinder Buffalo

Lomado, A New Houseboat Cruiser

Photographs by Spencer



The owner's stateroom is situated aft of the engine-room and occupies the full width of the boat



Stairs from the deck-house lead down to the main saloon, which is a spacious compartment

THE accompanying photographs show the new houseboat cruiser Lomado, designed and built by F. S. Nock for Dr. Frederick T. Rogers, of Providence, R. I. Lomado is a 69-footer with a greatest beam of 15 feet 10 inches, and her interior accommodations are all that could be desired in a comfortable cruising vessel of this kind. The motor installed is a 7 x 9-inch six-cylinder machine of the sturdy Buffalo make, and there is, in addition, a direct-connected electric generating set.

The motor is installed forward in the forecabin where quarters are provided for the crew, and it is controlled by telegraph from the bridge directly above. Aft of the engine-room is the owner's stateroom, which is equipped with a

double bed and bureau and which extends across the full beam of the boat. From this point a central passageway extends aft to the saloon. Three other staterooms with upper and lower berths are entered from this passageway. The galley is furthest aft.



The 7 x 9-inch six-cylinder Buffalo motor is installed in the combined engine-room and crew's quarters forward. A separate direct-connected lighting set is provided

A Day Cruiser That Is Different

New Double-Planked Express Which Is a Radical Departure in Appearance From the Ordinary Type of Fast Boat—Reversed Sheer, High Freeboard Forward, Etc., Characteristic Features

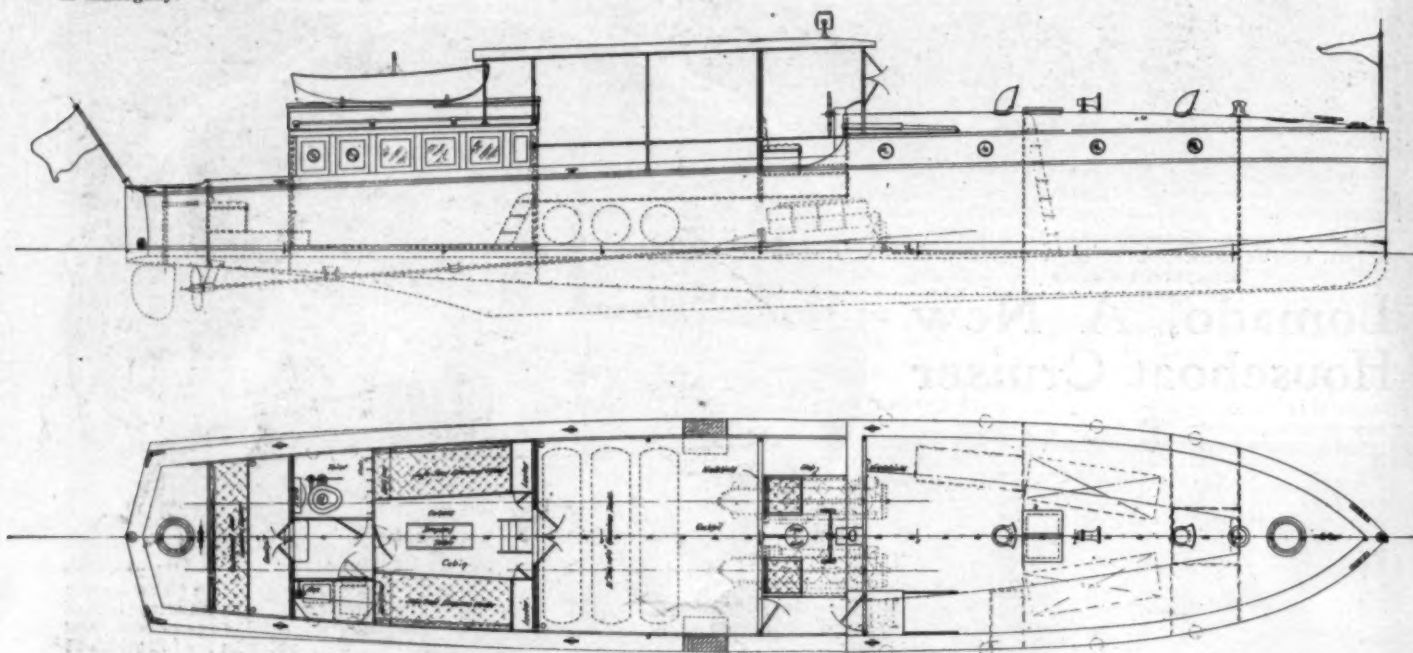
A NOTABLE addition to the fleet of express day cruisers has just been constructed at Wood's yard, City Island, after designs by Tams, Lemoine & Crane, of New York City. This new express, which is a 58-footer with 10 feet 10 inches beam, and a draft of 3 feet 6 inches, is owned by J. S. Bache, the New York banker. She is of the V-bottom type and is double-planked of mahogany and cedar with light canvas laid between. The frames are of rock elm, the decks of white pine, and all deck trim and finish is in mahogany.

In appearance this new craft is a radical departure from the ordinary type of fast day boat, as she has a reversed sheer, good freeboard forward, plumb stem and V stern. There is a turtle deck forward under which are the crew's quarters, toilet, lockers and mess room. Aft of this is the cockpit which is divided into two compartments, the floor line at the forward end being raised to form a bridge for the helmsman. An automobile type windshield separates the bridge from the owner's cockpit. On the starboard side of

the helmsman's cockpit is a companionway to the quarters below.

Two eight-cylinder, 6x6-inch Van Blerck motors of 200 h.p. each are installed under the bridge deck with electric starting and lighting equipment. Under the after portion of the cockpit are three cylindrical copper gasoline tanks holding about seventy-five gallons each. A speed of 30 m.p.h. is expected.

Next aft come the saloon, the toilet and the small galley. Emergency sleeping quarters are provided.



Outboard profile and arrangement plan of a new 58-footer designed by Tams, Lemoine & Crane for J. S. Bache. She is equipped with two eight-cylinder Van Blerck engines and has a 30-mile speed

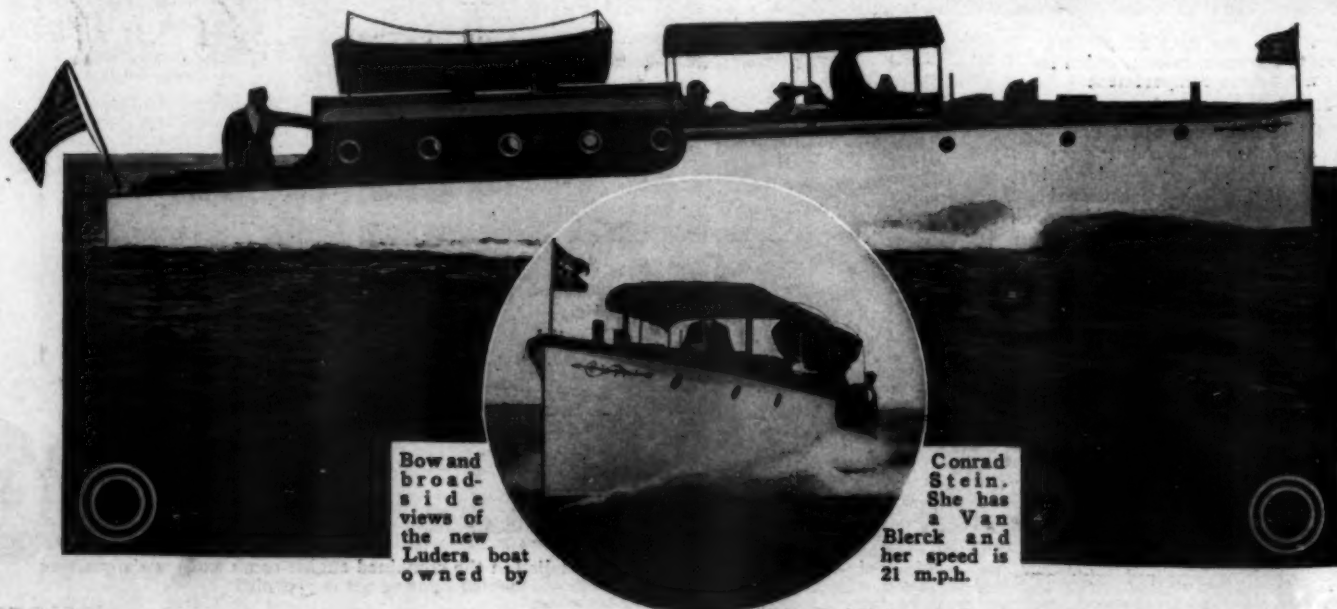
Zig Zag Her Name and Combating Submarines Her Mission

THE influence of the submarine has been felt in many ways, and has this year evoked a host of boats of the chaser type in which (their owners hope) there may be some excellent hunting one of these days. And now the underwater fighter is responsible for the naming of the fast 44-footer owned

by Conrad Stein, of New York. He calls this Luders conception Zig Zag, because of her ability to dodge the fire of a maddened submarine, although in times of peace she is perfectly able to keep a straight course and a true one.

As may be seen from the illustrations, Zig

Zag is a cruiser of good accommodations with a bridge deck amidships and cockpit aft of the main cabin. She has a beam of 7 feet 6 inches and a 26-inch draft. Her six-cylinder, 5½x6-inch Van Blerck turns a 21x22-inch, three-bladed wheel at about 1,265 r.p.m., and gives a speed of 21 m.p.h.



Bow and broadside views of the new Luders boat owned by

Conrad Stein. She has a Van Blerck and her speed is 21 m.p.h.

The Room of a Houseboat, the Speed of a Cruiser

Photographs by Rosenfeld



Parrakeet combines in one hull the important characteristics of two types of motor vessel. She has, in addition, many original features

PARRAKEET is something new in the boat line, for she is a houseboat with lots of speed in addition to the comfortable accommodations which are the natural concomitant of houseboats. She was designed by C. Andrade, Jr., of New York, for his own use, and into her arrangement and lines have gone a great many original ideas. Mr. Andrade's primary intention, apparently, was to design a 50x12-footer which would have more deck room and more interior accommodations than any boat of her dimensions, and then more speed than has been thought possible in any craft which was not avowedly a cruiser. It seems that he has lost something of beauty in the attainment of these objects, but then



Owing to the lightness of the boat, the Model E-4 Van Blerck is installed without reduction gear and operates at 1,200 r.p.m.



A four-burner alcohol range is installed, and the large ice box is arranged to lift out bodily. A feature of the dining saloon is the large amount of elbow and leg-room at table. Two tables, not shown above, are provided

beauty is largely relative, and oftentimes purely a matter of taste.

Commencing with the bow, the boat is arranged with a galley following the chain locker. Next comes the dining saloon which is fitted with two tables of unique design which are arranged to permit easy passing. Aft of the saloon and separated by the companionway stairs are two staterooms, and following them, on the other side of a bulkhead, is the motor compartment. At the stern of the boat is a large double stateroom, and between it and the motor room are a bathroom with tub on the port side, and another stateroom to starboard.

The boat's lines are adapted from the Hickman Viper models, and she was built by Joseph B. Glazier, of Greenwich, Conn.

The engine installed is a Model E-4 Van Blerck, turning a 22x20-inch Ailsa Craig Columbian at ten to twelve hundred r.p.m.

For Warfare or for Recreation

The Larger of the Two Boats Which the Navy Department Has Chosen as Being Equally Suitable for Pleasure Boating and for the Sterner Duties of Scouting and Patrol Work in Time of Need

REALIZING the difficulties of attempting to do efficient scouting work with the heterogeneous lot of fast cruisers which are now in service, as well as the impracticability of equipping with rapid-fire guns motor boats which are not specifically designed for their reception, the Navy Department has endeavored to set a standard for a type of boat that will meet these requirements as well as those of the private yachtsman. After having advertised for competitive bids, the contract for building a 66-foot motor cruiser which would be suitable for coast patrol work as well as for pleasure purposes was signed with the Luders Marine Construction Co., of Stamford, Conn., and the boat is now in the process of construction.

Among the chief requirements of the Navy Department were a sustained top speed of 30 miles an hour for four hours and a 26-mile speed in a moderate sea for six hours. In addition, the boat was to be capable of carrying a full

load of fuel, the proper complement of crew, stores, ammunition and a three-pounder gun.

As designed by the Luders people and accepted by the Navy the boat (the larger of two which the Department desires) is 66 feet over all by 13½ feet beam and 4½ feet draft. Her hull is of the hollow-bottom, wave-collecting type, and under ordinary conditions at anchor and at moderate speed she has every indication of being a round-bottom boat. She has a hogged sheer, raised deck forward, and a very pronounced flaring plumb bow with the chine rounded and dissipated where it emerges from the water.

The living quarters are divided by the machinery compartment which is amidships, and in this manner two distinct suites are secured. In the after deck-house, a low cabin trunk, is located the main living-room, a space about 8 feet long by the full width of the boat.

Forward of this is a galley and a toilet, and further forward is a space which if not used for a wireless room makes a very good trunk room.

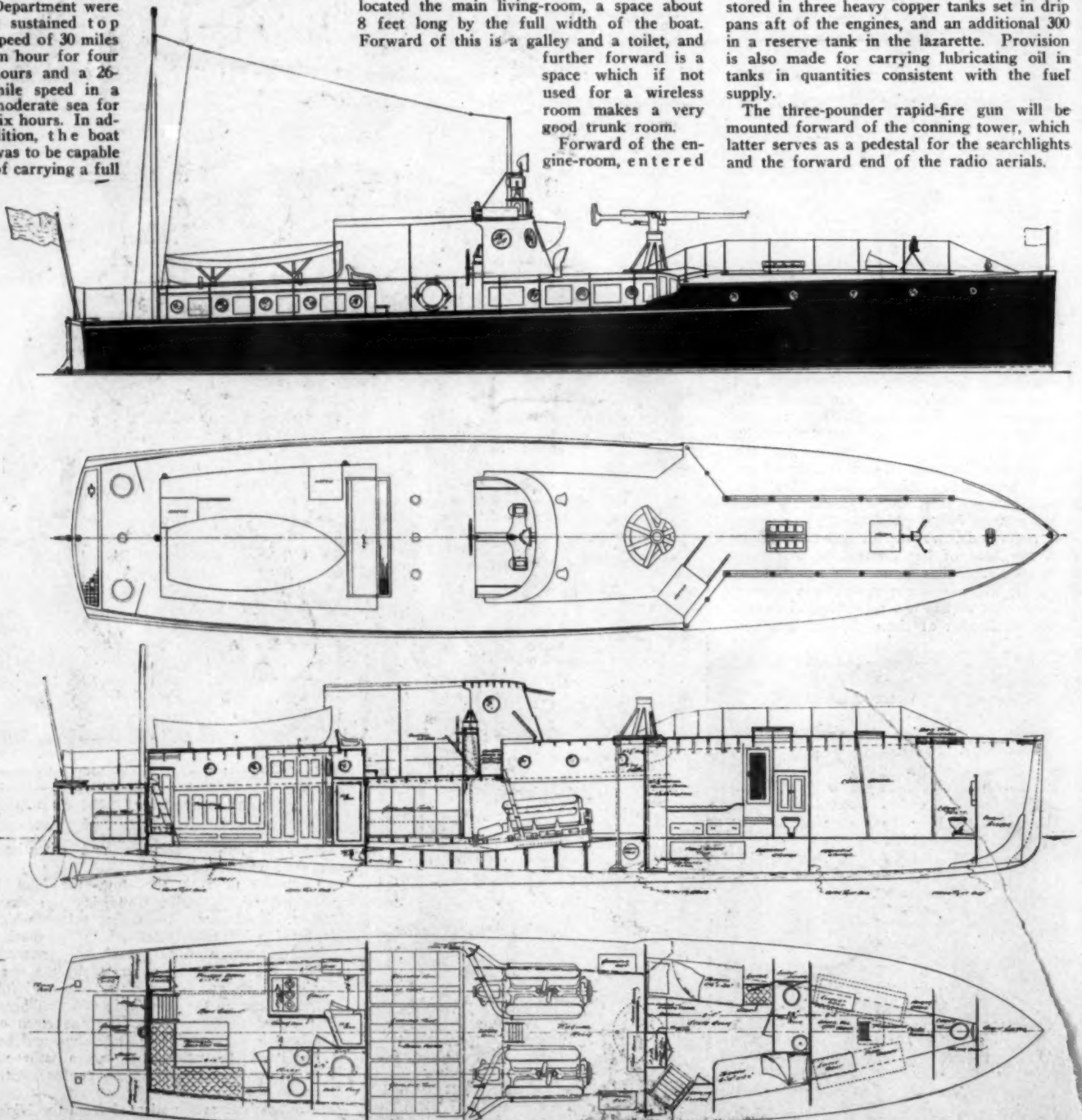
Forward of the engine-room, entered

from a companionway on the main deck, is a stateroom and a connecting toilet. A crew of four men may be accommodated in the forecabin. The living quarters are complete in every detail.

The power plant comprises two Van Blerck twelve-cylinder motors of about 400 h.p. each, which are expected to drive the boat with ease at the guaranteed speed. Two independent ½ k.w. lighting sets will furnish ample current for operating the wireless outfit, the two 9-inch arc and one 14-inch incandescent searchlights with which the boat will be provided, and the other electrical fittings included in the equipment of the craft.

On account of the great radius of action required—500 miles at 25 m.p.h.—the gasoline supply is rather unusual, 1,800 gallons being stored in three heavy copper tanks set in drip pans aft of the engines, and an additional 300 in a reserve tank in the lazarette. Provision is also made for carrying lubricating oil in tanks in quantities consistent with the fuel supply.

The three-pounder rapid-fire gun will be mounted forward of the conning tower, which latter serves as a pedestal for the searchlights and the forward end of the radio aerials.



Outboard profile, deck plan, sectional view and arrangement plan of the 66-foot dual purpose motor vessel which the U. S. Navy has ordered from the Luders Marine Construction Co. Two Twin-Six Van Blercks will be installed, and the boat will carry radio apparatus, three searchlights and a rapid fire gun.

America's First Twin-Screw Diesel Boat

A 120-Foot Shallow Draft, Tunnel Stern Craft Powered With 300 Horsepower—The Beginning of a New Epoch in Passenger-Carrying Boats

Photographs by Pearce

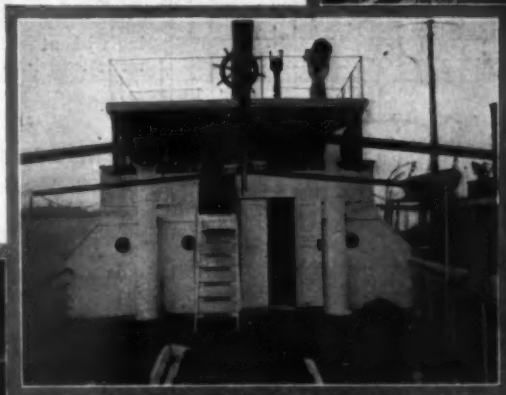


Palisades is owned by Geo. W. Perkins, chairman of the Palisades Interstate Park Commission, and is convertible from a passenger-carrying vessel to a houseboat of most comfortable accommodations

IN addition to the natural interest which attaches to Palisades as the first twin-screw Diesel to be put in service in American waters, she is as unusual without being freakish as any boat which has recently been set afloat. She was designed and built by the Mathis Yacht Building Co., of Camden, N. J., for Geo. W. Perkins, of New York, and is arranged with the usual service quarters which are a natural part of any houseboat. But Mr. Perkins is the chairman of the Palisades Interstate Park Commission, and intends to turn his craft



Practically the entire 22 feet of beam is available for passengers on the upper deck



over to the Commission in the summer time for use as a passenger vessel, so the partitions which divide off the various state-rooms in the winter are removed and the whole main deck thrown in-

to one large area for the convenience of the passengers and their folding chairs. The boat will be run close inshore, so, in spite of the 120-foot length, the draft has been kept to 4 feet, and the Palisades are high, so in order to avoid undue stretching of necks, angle windows are provided on the main deck.

The main deck may be partitioned off into staterooms. Note the angle windows



The motors exhaust at the stern and the small boats are carried aft, leaving a large unobstructed deck for sightseers. The power installation consists of two 150 h.p. Southwark-Harris Diesel engines



PRIZE CONTEST IN QUESTIONS & ANSWERS

Figuring the Boat's Speed

How the Capabilities of Your Craft May Be Determined Without the Use of a Taffrail Log—Several Methods Whereby This Data May Be Collected and Used to Advantage in Long Runs

THE PRIZE CONTEST—Answers to the First Question in the July Issue

Actual Cruising Speed

(The Prize-Winning Answer)

THE speed of a boat may be what she will make on a forced run, in smooth water, over a measured mile, on the one hand, or what she does make on long deep water trips, on the other.

In the first instance the results may be a great disillusionment and differ dismally from the "talking speed." If your boat is a cruiser and you venture beyond your home port the latter figure is about all that is of value for the work of practical navigation.

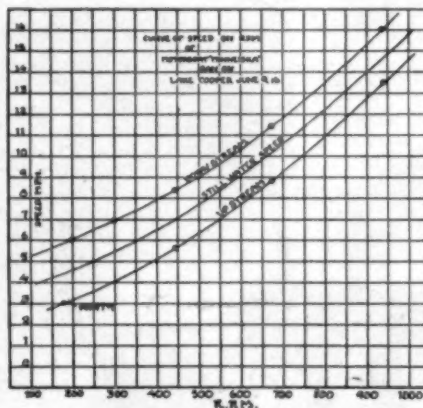
Lamentably numerous are the yachtsmen who do not keep up a careful log book and to them would I suggest the following simple methods that will not only prove a fascinating part of the game but provide a decided feature of safety if you are overtaken by thick weather and are forced to navigate by compass and dead reckoning.

Before you start take off the total distance (preferably in nautical miles) from your chart. You may use dividers, but I find a strip of paper and pencil more accurate, marking the starting point and swinging the edge of the paper on to each new course by holding the point of the pencil down hard near the edge at each buoy or turning point. After marking the terminus, lay the paper on the scale of miles and count off the distance. Enter this in your log book with the tide and wind conditions prevailing, and set down the time of your departure. Count the engine revolutions several times during the run, preferably with a counter and also write this in.

Nearly all yachtsmen run at a fixed throttle setting, day after day, when cruising, and you will doubtless find, if you have a well-groomed power plant, that there is very little variation in the r.p.m.

Upon arrival note the hour and the elapsed time. Divide the distance by the time, being careful to express the latter as hours and decimals of an hour, that is, if your distance is twenty-seven nautical miles and your time three hours twelve minutes, you divide 27 by 3.12/60 or 3.2 hours, and your speed is 8.44 knots.

After a dozen runs you will have very accurate data on the yacht's speed under varying weather conditions, from which your tabulated results may read as follows:



Curve sheet, explained in text by Mr. Mills

Questions for the November Issue

1. Discuss the question of leaky hulls and how the leaks may be most readily located and remedied.

Suggested by H. H. B., Schenectady, N. Y.

2. Describe with drawing a practical device which may be applied to a boat to increase the safety of its occupants from any form of danger.

Suggested by H. A. M., Philadelphia, Pa.

3. How would you proceed to procure or build and equip the most satisfactory and seaworthy cruiser for \$1,000?

Suggested by C. H. B., Jr., Chicago, Ill.

Rules for the Contest

Answers to these questions, addressed to the Editor of MoToR Boating, 119 West 40th St., New York, must be (a) in our hands on or before September 20th, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses. (The name will be withheld and initials or a pseudonym used if this is desired.) Questions for the next contest should reach us on or about the 20th of September. The Editor reserves the right to make such changes and corrections in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the questions above, any article advertised in the current issue of MoToR Boating, of which the advertised price does not exceed \$25, or a credit of \$25 on any article advertised in the current issue of MoToR Boating which sells for more than that amount. (There are three prizes—one for each question—and a contestant need send in an answer to but one if he does not care to answer all three.)

For each of the questions selected for use in the next contest, any article advertised in this issue of MoToR Boating, of which the advertised price does not exceed \$5, or a credit of \$5 on any article advertised in this issue of MoToR Boating which sells for more than that amount.

	Knots
Calm	8.7
Moderate following sea	8.65
Moderate sea abeam	8.6
Moderate head sea	8.55
Heavy following sea	8.5
Heavy sea abeam	8.48
Heavy head sea	8.

With the use of such data we made a run in Kex II from Cutlers Harbor to Mt. Desert, Me., in a fog so thick that the bow staff was specter-like, made five turns on dead reckoning without seeing a mark, ran 7½ hours and made land less than ¼ mile out of the way.

F. P. HUCKINS, Boston, Mass.

Standardize Your Wheel

THE best way to determine the speed of a boat without the use of a log or other similar device is to standardize the propeller by running the boat over a measured mile course at five different speeds, noting the revolutions per minute and the time on the course. It is usual with steamships to repeat these runs with the boat loaded to three different drafts. For motor boats, however, one set of these runs with the boat loaded to its usual load waterline will suffice.

First lay off a mile course parallel to the shore, with suitable ranges on shore, and parallel to the current if there be any. There should be two ranges at each end of the course, one near the shore and the other directly back of it, say 100 feet, so that one may know by sighting on these ranges just when he enters and leaves the course. Now, run over the course both upstream and downstream, recording the r.p.m. and the time on the course, repeating each run until accurate data is had.

The following data was taken from the boat Minneiska.

	UPSTREAM				
No. of run..	1	2	3	4	5
Time	20'0"	15'0"	10'38"	6'48"	4'28"
Speed, m.p.h.	3	4	5.6	8.8	13.5
R.P.M.	180	300	445	675	945

	DOWNSTREAM				
No. of run....	6	7	8	9	10
Time	10'0"	8'42"	7'9"	5'16"	3'45"
Speed	6	6.9	8.4	11.4	16
R.P.M.	200	300	445	675	940

With ordinary co-ordinate paper plot a curve of speed on r.p.m., as shown in accompanying sketch, for both up and down stream.

When you send in your answers you must state what you will take for a prize should you win one

If there is no current but one curve will be plotted. The point No. 1 on sketch is located as being the intersection of a vertical line through 180 on the horizontal scale and the horizontal line through 3 m.p.h. on the vertical scale. The other points are located in the same way and curves drawn through them. Now draw a curve midway between the two curves of up and down stream. This curve is the mean speed or still-water speed, and the speed in any current can be determined by adding or subtracting the current speed from the speed shown on this curve. For running where there is little or no current the speed of the boat can be read directly from the mean speed curve by knowing the r.p.m. In very shallow water this curve will not be correct, due to the rapid increase in hull resistance, consequently the mile course should have about the same depth of water that the boat is ordinarily run in.

W. M. MILLS, Rock Island, Ill.

More Than One Way of Doing It

AS a fundamental by which future calculations of speed may be checked up, the speed of the boat in smooth water over an accurately measured course is an essential.

If no accurately measured course is in one's vicinity, an excellent substitute is shown in Fig. 1. A and B, C and D are sticks set on a wharf or along the shore and the distance between A and D is accurately measured.

The boat is then run on a course parallel to a line connecting A and D, and the time is noted. Suppose that the distance between A and D is 200 feet and the boat runs it in eleven seconds; the nautical miles per hour are determined from the formula $S = \frac{d \times 3600}{\text{sec} \times 6080}$

$$\frac{d \times .592}{\text{sec.}}$$

Substituting the values of d and sec., $200 \times .592$

11

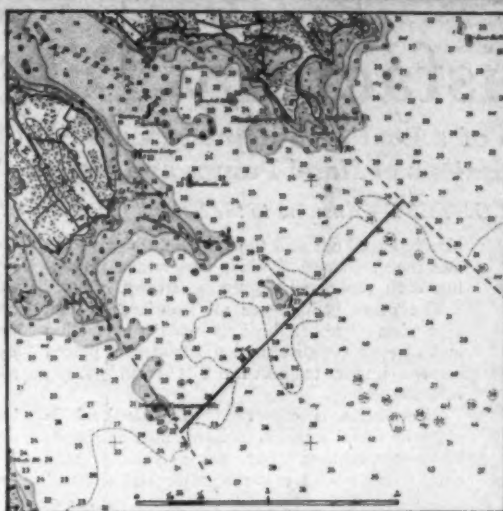
run the boat at reduced speed also over the course in order to ascertain her speed when slowed down, as for instance in running in a thick fog.

Under favorable conditions this will be the speed of the boat through the water, but wind, waves and currents will influence greatly the speed over the bottom.

The extent of these influences can be determined by using the above formula with known distances between lighthouses, beacons, or buoys (the last are sometimes unreliable on account of shifting their positions). In so doing these marks will be considered as occupying relatively the positions of A and D (Fig. 1).

Or with dividers the distance run can be stepped off on the scale of miles and that multiplied by fractions of an hour or divided by hours.

If the compass is



An example of how the boat's speed may be taken by a computation from bearings on the chart—offered by Mr. Bradford

fitted with a pelorus, or bearing plate, cross bearings may be taken of known objects on shore, as shown in Fig. 2. For good results the bearings selected should be as near 90° as possible.

The speed over the bottom can be ascertained with a sextant, two sights of a lighthouse, or other object whose height is known, taken nearly an hour apart. The angle subtended by the object is measured and the necessary corrections applied. The distance run is

$$\text{found from the formula } d = \frac{h}{\tan A}$$

be resolved into $d = \frac{.56}{A}$. (The value of A is reckoned in minutes.) The two simple processes of multiplication and division give the distance and the miles per hour can then be figured out by either of the two processes previously stated.

In fog running the foregoing is of no use. Then the cruising man must calculate his speed beginning with the known factor of the boat's speed in smooth water. From the tide tables the stage of the tide is learned. From the chart is found the direction and the approximate speed of the tidal currents of the waters on which the boat is sailing.

Applying the results so obtained as being either with or against the boat, the speed over the bottom is determined.

Practice upon the foregoing will make one

adept in the matter of speed determination while running the coast, the degree of accuracy depending upon the personal equation.

JAMES E. MURPHY, Dover, N. H.

Piloting With No Log

THE estimate of a vessel's speed and direction she makes good "over the ground" is one of the most essential points upon which the navigator is called to display his ability. If at sea, he checks his position by celestial bearings or observations, and a few miles or so in either direction is not an element of danger, but when sailing coastwise or in close proximity to dangers, a greater accuracy of position is necessary. This is done by constantly taking bearings of known objects from which he locates himself and deduces his speed. Unless on long runs out of touch with landmarks the coast pilot seldom if ever puts a log overboard.

The speed over the ground comprises several elements, viz., actual speed through the water, current, a set to leeward resulting from waves and wind. The log does not give the actual speed, it only approximates. The screw turns of a propeller is more reliable (that is, in a sizable vessel) but it is likewise an approximation. The actual speed over the ground must be reached by locating the boat at a certain time and, after an elapsed period, again determining the position. A slight calculation will show the speed between the points.

On practically every chart numerous ranges can be found by which position can be established, and no instruments are needed. A section of a chart, chosen at random, is shown herewith:

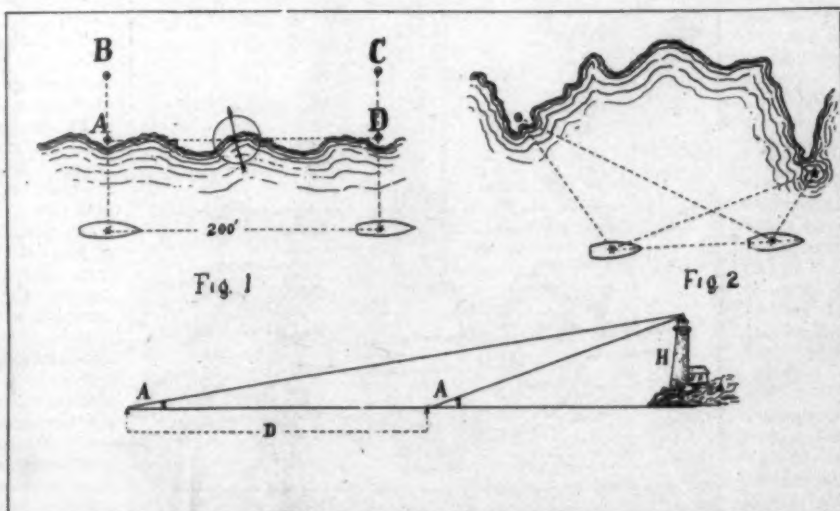
In passing Cormorant Rock the time is noted when the spindle is in line with the right tangent of Ram Island; steer a north-east course, passing Nyes Ledge Buoy about 100 yards off. When the spindle off Angelica Point is in line with a house on the end of that point (which happens to bear abeam) again note the time. We will assume that the tide was making to the northeastward and that the air was light; the run was made in 14 minutes to the eastward, and 16 minutes on the return run. The chart shows a distance of 2.45 miles and the mean indicates a speed of 9.8 miles per hour.

Now the foregoing is given for the purpose of testing the speed capacity of a boat, but if cruising along the coast for some hours you desire the speed made good, a search

should be made for some prominent object ahead that is shown on the chart. This done, the time is noted when it bears abeam—say 11:12 A. M., and by estimating the distance offshore, and measuring back to the last known position, say, at 8 A. M., the run and rate of speed can be readily obtained. Say it amounts to 25.5 nautical miles and the time consumed is 3 hours and twelve minutes or 3.2 hours, then

$$\frac{25.5}{3.2} = 8 \text{ knots (approx.) made good.}$$

G. BRADFORD, 2ND, Washington, D. C.



Mr. Murphy suggests three ways of determining a boat's speed

The Satisfactory Bilge Pump

As This Is an Important Item of a Boat's Equipment, Care Should Be Taken in Its Selection and Installation—Descriptions of Hand Pumps and Various Types of Power Outfits

THE PRIZE CONTEST—Answers to the Second Question in the July Issue

A Syphon Jet Pump

(The Prize-Winning Answer)

HERE is a way to dispose of bilge water without any plungers or packing to wear out. There are no diaphragms to tear or crack, no eccentrics to oil, no valves to stick or leak and the outfit requires no repairs or attention. This device is on the principle of a syphon jet, depending on the force of the exhausted gases to cause a vacuum in the passage between the ends of the exhaust pipes which in turn causes a vacuum in the bilge water suction pipe.

As it mixes water with the hot gases it tends to increase the power by reducing the back pressure on the exhaust in place of requiring power to operate it.

The accompanying drawing shows the device in detail. The exhaust pipe is cut in two where it drops from the engine to its position under the cockpit floor and the upper end of the pipe has a long thread. These threads are not of the taper type as ordinarily used in pipe fitting but are machine threads.

The end of the upper pipe is given a long outside taper and the end of the lower pipe an inside taper of a little shorter bevel. A lock nut is used to make secure these pipe ends at the right position after they have been screwed into the cast iron body. Bringing the pipes closer together enables us to lift water a greater distance but in less volume. The suction pipe is dropped down to the lowest place when the boat is in action. A cap on the end of the pipe and several saw cuts in the side or bottom of the pipe make an ideal strainer.

An $\frac{1}{8}$ -inch connection is made to the water discharge from the cylinders. This can be used for priming and to keep the pipes, etc., from overheating in the absence of bilge water.

M. A. WRIGHT, St. Paul, Minn.

A Hand Bilge Pump

ORIGINALLY I arranged for pumping the bilge with the circulating pump, by adding a 3-way cock and some extra piping. This is about the simplest and cheapest way of disposing of the bilge water. It works quite well when there is plenty of water to pump, but when it gets low and is coming slowly through the limbers there is likely to be a scarcity of cooling water in the cylinder jackets; even if it is not forgotten entirely until the supply is cut off and the cylinders begin to smoke.

For the above and other reasons I decided to have a separate bilge pump. In selecting the hand-power pump shown in the illustration I considered it easier to build and install than a power-driven pump, while it would be quite as serviceable and reliable. Another advantage of a hand pump would be that I could pump out the bilge the day after the run, when I had time to think of such things as bilge water, something I usually fail to do while under way.

The barrel of the pump is 2-inch brass tubing. As this is too thin to be threaded a standard pipe thread, the large $1\frac{1}{2}$ -inch pipe size T was

simply bored out and the tube lightly driven in and then soldered. This is easier than threading both tapers and quite as strong.

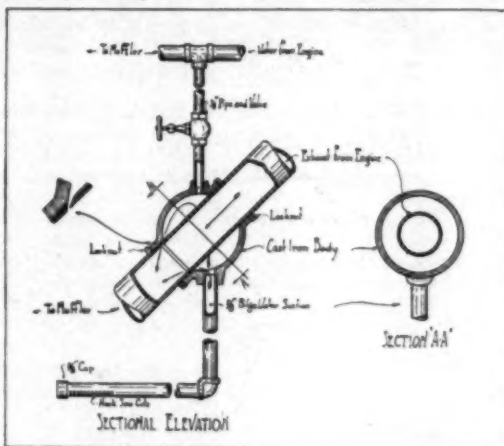
The other fittings are all standard $\frac{3}{4}$ -inch pipe size. Rubber hose is used for suction and discharge piping and a strainer is placed on the intake to prevent dirt from getting into the valves.

The piston is composed of cork held in place by metal washers and two nuts as shown in the illustration. The cork may be roughly cut to shape with a sharp knife and finished

work by the piston. The large T check valves and piping are all installed under the floor out of the way, the only part above the floor being the brass barrel of the pump which takes up little room and is not objectionable. The upper end is strapped to a bulkhead or the side of a locker.

The rubber hose used on the intake is easily led to the lowest point in the bilge, and that on the discharge side to some point well above water where it is connected to a fitting through the side of a boat.

C. H. CHRISTIE, Saginaw, Mich.



Details of the syphon jet pump suggested by Mr. Wright

by filing with sandpaper until it is a good fit in the barrel.

At the upper end of the tube a plug is required to act as a guide for the rod. This may be turned up of brass, or hard wood will answer quite as well. It is held in place by a single screw through the tube. No stuffing box is required, but a small hole should be drilled near the upper end of the pump barrel for the escape of any water that may possibly

Recommends a Power Pump

THE use of a hand bilge pump for removing the water that leaks in through the planking and stuffing box is a distinct waste of time and energy aboard a motor boat, where an engine-operated pump, with its freedom from attention, produces excellent results, without the accompanying physical effort.

Among the several types of pumps used to expel the bilge water are the centrifugal, the gear and plunger types, and they are driven by means of friction, belt or direct shaft connections.

There is little difference in the points of advantage of the several types, for they all accomplish the same results when properly installed.

The centrifugal high-speed type, with friction drive, is probably the easiest of installation, and the drive wheel will slip without injury in the event that the pump becomes clogged.

A hinged base and a thumb screw to bring the friction wheel firmly against the face of the engine flywheel will add materially to the life of the friction drive and the pump, for it permits of the pump being readily disengaged after the bilge water has been expelled.

The intake pipe should be screened with brass wire to exclude waste, matches, pieces of metal, etc.

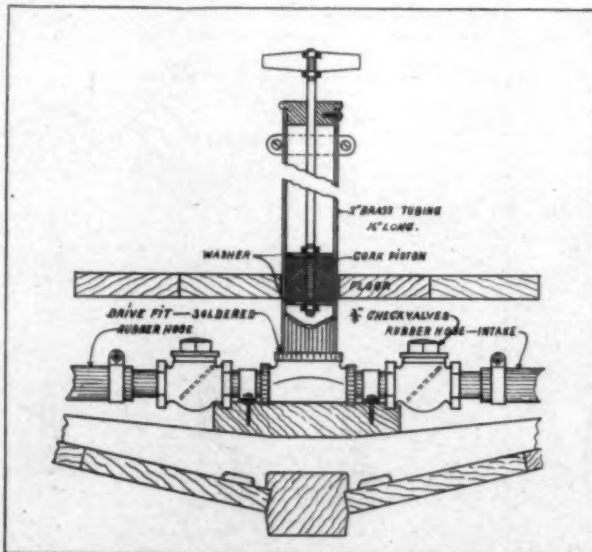
Carry the intake as far aft as need be, to the lowest part of the craft, taking advantage of the rise of the bow, as it does when the boat is under way.

The outlet pipe should be fixed high above the waterline to prevent any possibility of the sea water flowing in and filling the hold.

Do not make the mistake of connecting the outlet with the circulating system for cooling the motor, for it necessitates the installation of a valve and the attention needed to close this valve when the motor is stopped.

More than one owner has been disagreeably surprised that his failure to close the cock has resulted in the complete submergence of his craft, which was due, of course, to the syphoning action of the piping.

So-called self-bailing or syphoning fittings with automatic valves or checks for closing are not advisable for ordinary use for it is possible that the automatic feature may fail to function at some time, with disastrous results when the boat is left unattended. G. A. L., Washington, D. C.



Mr. Christie has devised a satisfactory hand pump with two-inch brass cylinder and cork piston

A Home-Made Affair

BILGE pumps are of so many sizes and types that it is hard to say which is the best, but if the boat owner wishes to make one himself, the sketch shows a pump of fairly simple construction and good capacity. The cylinder is made of brass tubing two inches outside diameter and any length desired; the longer the cylinder the greater the capacity. This brass tube is soldered into a brass bushing of two-inch iron pipe size, which has been bored out to take it. The bushing is then screwed into a two-inch galvanized iron tee. In each end of the tee is screwed a galvanized bushing reducing to one inch; this will allow of screwing on two standard one-inch horizontal check valves. The tee and bushings could be brass, but the iron fittings will last a long time and can be cheaply renewed. Before screwing together, the threads should be covered with shellac which is allowed to dry and then another coat applied just before screwing together.

The pump piston as shown is a brass cylinder with grooves turned on its face, thus forming a "water seal" requiring no packing. Or one wide groove with packing could be used, or a brass washer above and below with leather discs between. This being a force pump, a "cup" leather should not be used.

In regard to installing, the pump as shown is supposed to be under the cockpit deck, with the valves as low as possible but in an accessible position. The pump rod and handle extend above the deck. If the pump cylinder is not too long, a strong spring can be placed under the piston as shown, to force the piston up, and then the pump can be worked by foot, using some form of catch to hold the handle down to deck when out of use.

Another place in which the pump could be installed would be under the narrow deck alongside of cockpit coaming, with the handle coming above the deck; the valves, though, should be in an accessible position.

Galvanized pipe is plenty good enough for connecting to the bilge and overboard, even for salt water; use unions so that pump may be readily removed. In the diagram shown, two two-way valves are used. One suction inlet is permanently installed, with strainer, at the lowest part of the bilge, or where the most water collects, and the other connection is a suction hose with strainer, which should be long enough to reach overboard to supply water for washing down decks or other purposes. One discharge outlet is piped through the side, while the other is a hose connection for washing down.

Do not use 90-degree elbows in the piping but make all bends as gradual as possible.

H. H. PARKER, Oakland, Cal.

Used on a 31-Footer

IN my bilge pump installation which has been in successful operation for the past three seasons on a 31-foot raised-deck cruiser, the water pump is on the port side of the engine bed just aft of the flywheel. It is connected by one-inch galvanized pipe and a short piece of steam hose (to overcome vibration) to a T and a short nipple to a wheel valve, just above the engine-room floor, which controls the bilge water. A short nipple is run through the floor and a piece of lead pipe is soldered to it, while the other end of the lead pipe is

cut on an angle so as to fit about half an inch above the keel at the lowest part of the boat, and has a sieve over the end so that in case there is any dirt in the bilge it will not be pumped through the engine. Lead pipe is used here as it can be bent to any angle and can be installed much more easily than iron pipe with the proper fittings. On the other end of the T two short nipples and an elbow connect with

Care must be used to see that both valves are not left open at the same time, because if they are they act like a sea cock and the boat will soon be full of water.

This bilge pump can be installed very cheaply and will do the work well.

B. HOWLAND, Mt. Vernon, N. Y.

Think a Moment

UNLESS you have a boat over 30 feet long, a hand bilge pump is by all odds the most satisfactory. The secret of a successful hand pump lies in a proper position and a good strainer. "A" can pump his boat twice as quickly as "B" because he works in a comfortable position, and is not bothered by chips and shavings clogging his valves.

The pump which I suggest is a generous-sized double-hose hand pump such as may be bought of any marine supply house. The piping into the bilge should be brass to prevent its being crushed by anything that might touch it, although hose may be used. If you do not care to bore a hole through the side of your boat for the outlet, a sufficiently long piece of hose may be kept coiled up to lead outside. If you do lead the pipe through the side, put the outlet at the waterline or the bilge water will foul the side of your boat. The suction must be located in the lowest part of the boat's bilge, and the limber holes in the ribs must be kept free. This is best done by running a small flat copper chain through the limbers from bow to stern. An occasional jerk on this will keep the holes clear.

A good strainer is most important. Make a box of rust-proof mosquito netting that will fit between the ribs and have high enough sides to keep out all dirt. It should be readily removable for cleaning. The ordinary small strainer that comes with the pump goes inside this box.

The pump is fastened by pipe straps to the side of the cockpit, the engine housing, or some other like place. Stop and think a little before you fasten the pump permanently so as to get the most comfortable position while pumping, and the shortest leads.

H. M. BAKER, Bar Harbor, Me.

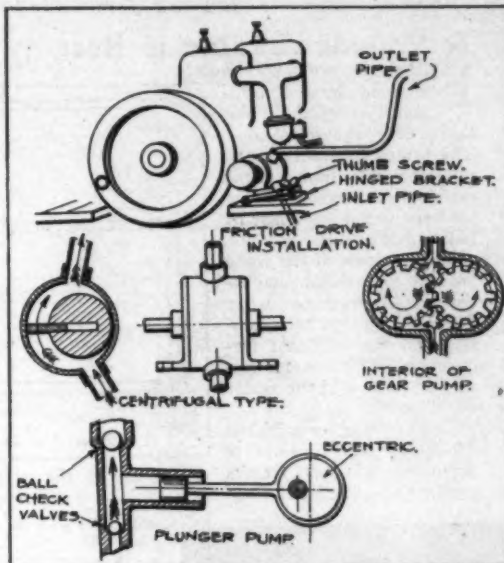
A Simple Installation

Two years ago the following installation of a bilge pump was made on a 24-foot runabout and has since proved ideal.

The first thing purchased was a ½-inch gear pump, this type of pump being chosen because it is easy to install and requires no attention. The pump shaft was fitted with a 4-inch fiber pulley having a ½-inch face. The pump was mounted on a 3/16-inch thick brass plate, being fastened to a block of wood by pivoting it at the corner with a brass lag screw. This block was then secured to one of the engine timbers in such a position that the pulley had a bearing on the face of the engine flywheel.

When the pump is not in use the control rod is pulled back against a spring and hooked over a small brass plate which is mounted on the bulkhead.

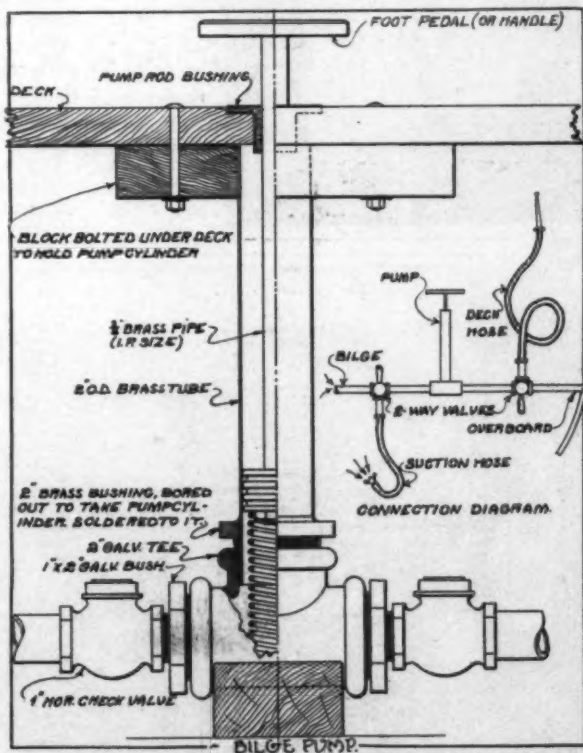
The discharge is piped through the side of the boat with a piece of ¾-inch garden hose and a standard brass water outlet. The intake is connected to a 3-foot length of the same hose. H. H. B., Schenectady, N. Y.



Sectional drawings of various types of power pumps—drawn by G. A. L.

another valve, below the floor, which is connected by a short length of pipe to the water intake placed well below the waterline. A trap door, large enough so that the valve can be shut off when necessary, is cut in the engine-room floor.

By opening a valve near the T the bilge water is pumped out of the boat, and by closing this and opening a second, the engine pumps the water from the outside.



Mr. Parker submits a hand pump which may be fitted with a spring for pedal operation. No packing is needed in the type of piston suggested

Fitting a Folding Windshield

An Important Adjunct to the Extra Equipment of a Runabout Which Should Not Be Omitted—No Unusual Difficulties of Construction and Installation Will Be Met by the Average Boatman

THE PRIZE CONTEST—Answers to the Third Question in the July Issue

Tried and Found Satisfactory

(The Prize-Winning Answer)

THE accompanying drawing and photograph show a windshield that I fitted to my automobile type boat two years ago. It is still in place and has required no repairs or alterations except the usual re-varnishing.

An oak filler board 13/16 inches is cut to fit the crown of the deck directly in front of the cockpit coaming. At the ends it is bored for the 3/8-inch brass rods full depth and a tight fit. The top edge of this board is protected by a 3/4x1/16-inch brass strip.

The frames are made of 13/16x1-inch oak strips grooved on one edge for the glass the same as window frames. The corners are mitered, glued and nailed, and the other ones reinforced with flat brass corner angles with

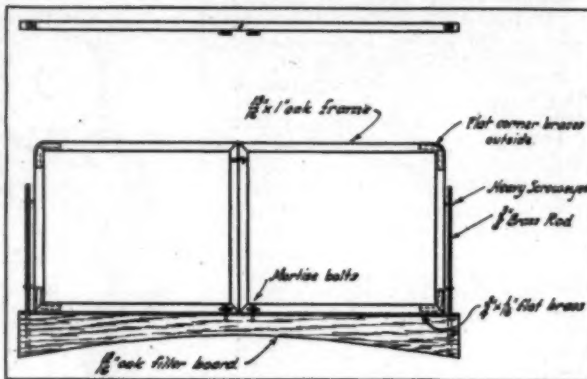
A Wooden Frame is Best

FOR the open motor boat a wood framed windshield has many advantages over the metal one. The primary advantage and the one which eliminates the metal windshield for many boatmen is the possibility of building it at home.

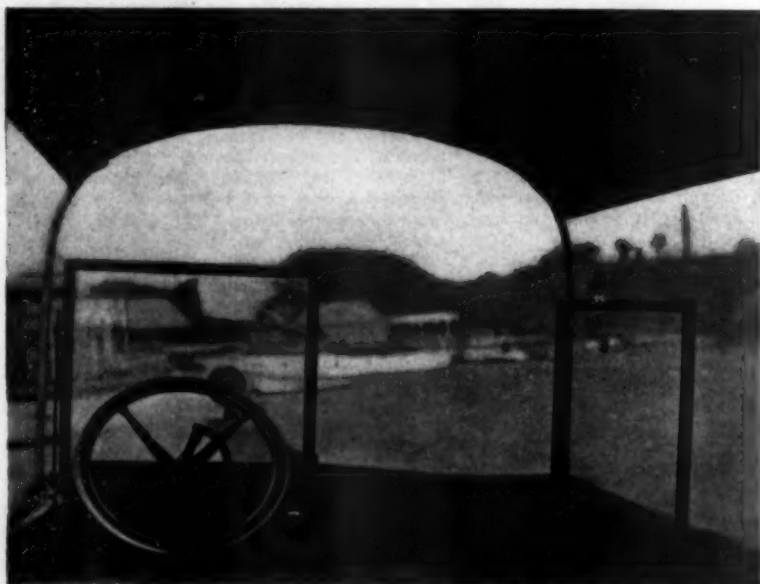
The low cost of the wood framed windshield, its attractive appearance when finished to match the coaming, and the fact that frequent polishing is not necessary are a few of the minor advantages.

The folding windshield which we will consider is composed of two frames grooved and fitted with plate

bottom member is grooved in the same manner but sawed to fit the crown of the coaming



Drawing of the windshield shown in the photograph on this page



A folding windshield installed by Mr. Kelley, which was right in design and has remained right

two screws to each leg, as in the illustration. No doubt mortised joints would have been better if they were made right, but I could not make them, hence the mitered joints, and they are still firm and strong.

Heavy screw eyes at the outer sides of the frames allow them to swing any way around the rods. The inner sides which come together have a lap joint and are held by mortise bolts dropping into holes in the filler board and a catch near the top.

For entering the engine compartment, one frame (as shown in illustration) is swung around, resting on top of the coaming at the side, and held by the bolt fitting a hole in the coaming. On account of the steering wheel preventing entrance to the engine compartment on the left side, the frame in front of it is seldom opened, but it operates like the other one, and both can be entirely removed very easily. These frames are each 20x25 inches outside, making the total width four feet.

L. R. KELLEY, Philadelphia, Pa.

glass. The wood may be of oak, mahogany or any similar straight-grained, well-seasoned stock. The lower frame is, as shown in Fig. I, composed of three straight members grooved to receive the glass and framed as shown at the corners. The

corners should be bound with screws on plates or L braces where possible and these should be framed into the wood so as to be flush.

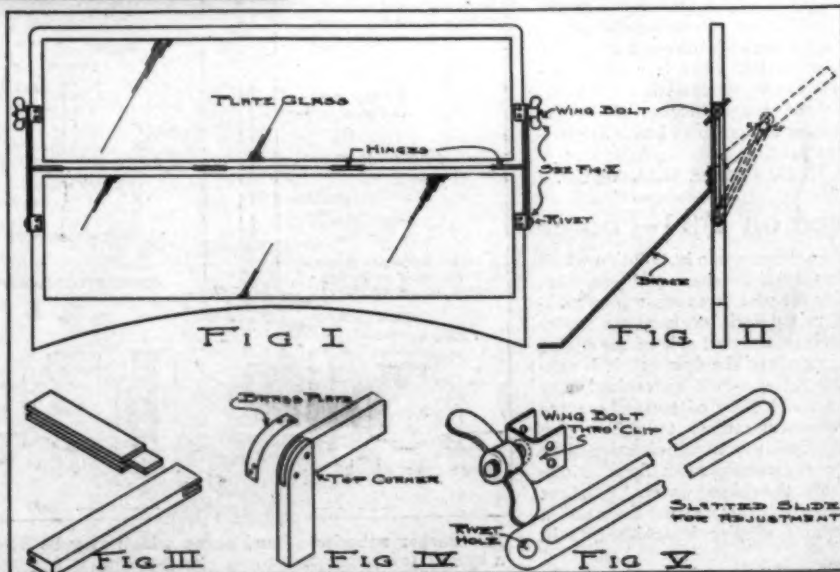
The top section is made entirely of narrow, straight members and the upper corners are reinforced with plates of brass, polished or nicked and bent to fit the curve of the corners as shown in Fig. IV.

Do all the necessary sandpapering and insert the wicking and a water-proofing caulking cement into the grooves which are to receive the glass.

Now, place the frames about the glass, glue the corners with water-proofing liquid glue and clamp securely until dry.

When the clamps are removed, put on the plates and L braces, using screws sufficiently short so as not to disturb the glass, but plenty of them. Drill holes for all eight screws so as to avoid splitting the frames.

Fasten the two sections of the windshield together with hinges of suitable size for the job, putting them into the edges to which



Mr. Huestis' windshield is similar in appearance to some of those used on motor cars, but is constructed with a wooden frame

they are applied to give flush tight edges, where the sections join.

Over the outside (front) of the upper section apply a moulding as shown to prevent driving rain from leaking in.

The device for raising and lowering this windshield consists of a piece of sheet brass, bent as shown and provided with a wing bolt in the center (see Fig. II and V) also a slotted brass strap as shown in Fig. V.

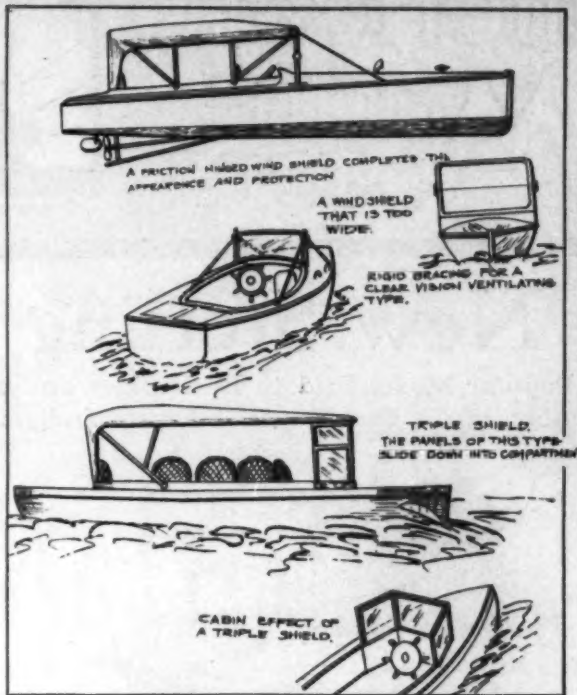
The wingbolt device is fixed to the upper half of the shield as shown, and the brass strap to the lower, with the ringbolt passing through the slot therein.

When the proper adjustment is procured it may be retained by tightening the wingbolt.

Two of these should be used except on very small windshields. Braces should be provided to the deck and be carried to the windshield and fastened as illustrated in Fig. II.

This windshield is strong and of good appearance, and its building will afford several evenings' amusement to the man who enjoys careful joinery, or but a few evenings drudgery to the man who does not.

R. W. HUESTIS, Springfield, Mass.



G. A. L.'s sketches show a number of shields with the right and the wrong way of doing things

Of the Motor Car Type

WHILE the designer of the motor car has reproduced the trim lines of the yacht into the body construction of the automobile, the motor boat owner may safely copy those features in which the builder of the motor car has given considerable time and thought—the ease of control and comfort which the driver and occupants of the car are afforded.

In fitting a windshield to a motor boat of the express or runabout type it is advisable to follow as nearly as possible the type of shield and methods of attaching that are used

in automobile practice, in which the shield affords an indispensable protection to the motorist.

A friction-hinged shield, which permits of the manipulation of the glass panels to give clear vision in rainy or foggy weather or the entrance of air when the day is hot, may be purchased at any supply house, or one that has seen service on an automobile may be procured at a very reasonable cost.

Before purchasing, however, the features of bracing, height and interferences should be considered. The width of the shield, for the

sake of appearances, should not be more than two-thirds of the width of the boat. A filler-board which is used under the shield should be cut snugly to fit the deck and the bracing should be made as rigid as possible, for it is the inherent tendency of a shield to work loose, producing an annoying rattle.

For one who is designing a boat or on a craft where the construction will permit of the installation, a triple glass shield, of which the panels slide down into the compartments, provides maximum protection from wind and spray, and the appearance of the craft is enhanced.

The construction may be made to harmonize with the interior woodwork by the use of mahogany or suitable wood in the framework.

The glass should be thick enough to withstand reasonable vibration and the edges embedded in canvas, when fitting in the frames, to keep it rigid.

Clamps to hold the panels in place when raised, frictional springs that retard the swift drop of the frames in the guides and hinged covers to close over the openings when the shield is lowered are some of the requirements in the fitting of this type.

The upper edges of the panels may be provided with fasteners for securing to the forward edge of the top when one of the automobile type is used.

There is no generally accepted practice to follow in the construction, and the owner may take advantage of any features which will permit of the installation of a compact and rigidly arranged shield.

Perhaps, before coming to a definite decision, it would be well to study some of the windshield types which some of the more prominent builders of high-class runabouts have evolved in the last three or four years. Some of these are very distinctive and may offer valuable ideas.

G. A. L., Washington, D. C.

A New Hand Runabout With a 33-Mile Punch

WILLIAM H. HAND, JR., of New Bedford, Mass., has another fast runabout to his credit in Roy II, shown in the accompanying illustration. She was built last spring for L. A. Jackson, of Allston, Mass., and has been the source of a great deal of 33rd degree pleasure ever since. Roy

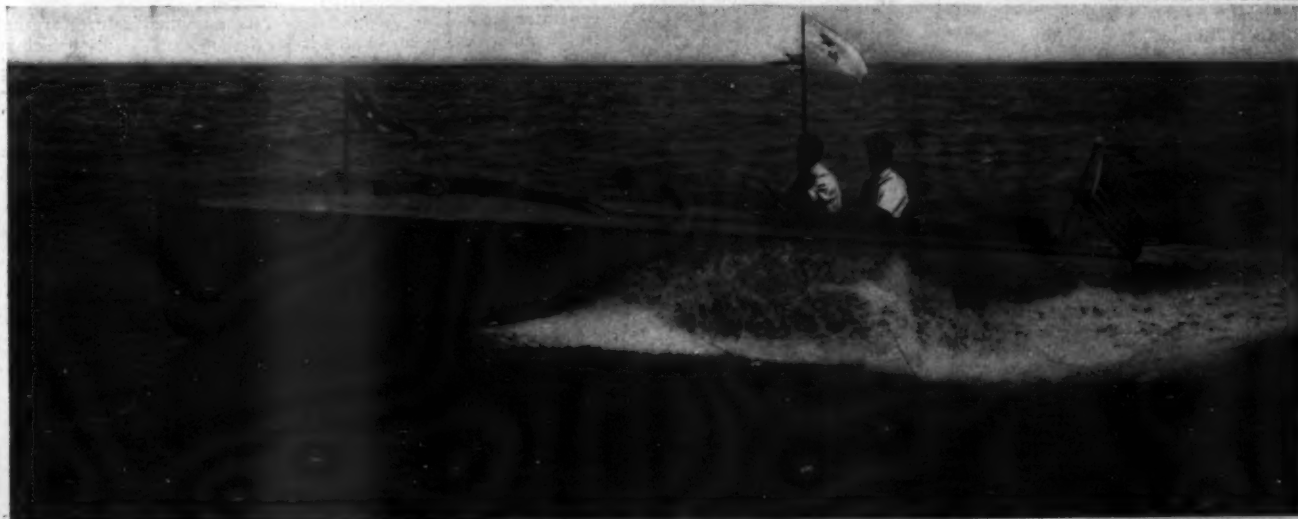
II is of the usual Hand V-bottom type, is 25 feet in length by 5-foot 4-inch breadth, and is powered with a Model E-4 Van Blerck, which turns an 18 x 28-inch Columbian Architect at about 1,400 revolutions per minute.

Mr. Jackson's joy in the possession of his craft comes from the absence of some things

and the presence of others—in the former category vibration, strain and noise, and in the latter perfect control, high speed and unusual seaworthiness.

As a contributor also to the pleasure of life may be counted the Leece-Neville electric outfit which starts the motor and lights the boat.

Photograph by Stebbins



Roy II, owned by L. A. Jackson, of Allston, Mass., is a new Hand-designed, V-bottom runabout powered with a Van Blerck motor which gives a 33-mile speed

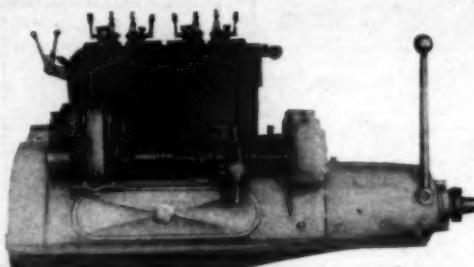


The New Sterling Kid

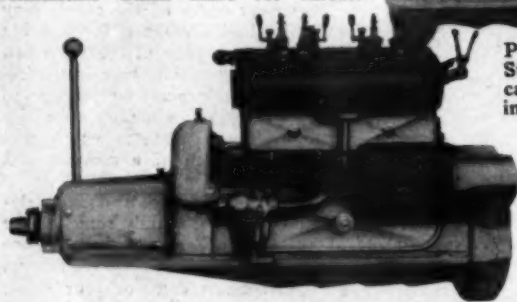
Youngest Brother of This Popular Model Said to Be Huskier and at the Same Time Quieter Than Any of the Other Members of the Family—All-Enclosed Design, Including Electric Starter

THE Sterling Engine Co., of Buffalo, N. Y., announced recently a new model of its famous Sterling Kid 10 h.p. engine. The new Kid is reported to be a healthy youngster, growing rapidly into a popularity which bids fair to eclipse that of its elder brother, and to be even stronger and huskier.

Already perfected to a high degree in the former models, the new 10 h.p. machine is provided with a great many refinements which make for further



Port and starboard views of the new Sterling Kid 10 h.p. engine, which, because of its enclosed design, may be installed in a dinghy without housing



economy and freedom from trouble. The new model is cleaner and quieter than its predecessors, the enclosure of moving parts having been extended to the flywheel and reverse gear. It is therefore now an all-enclosed motor, and it is unnecessary to house it in an open boat for the protection of either the mo-

tor or the passengers, as has been previously done.

An electric starter of excellent design has been incorporated as a part of the regular equipment. The starting motor is also entirely enclosed and is built as an integral part of the engine. The ease of starting the engine by a simple turning of a switch, combined with the general simplicity of the outfit, makes it extremely practical for operation by the gentler sex.

To those, however, who do not care to have the electric starting equipment, the engine may be had without this convenience, although the builder urges that it be included, for, while the little motor is extremely easy to start by hand, the comfort of complete control, including starting, without leaving the helmsman's seat, is thought sufficient to justify the slight additional expense of the electric starting outfit.

The Sterling Kid is built with the upper and lower bases as independent and separate units, this method of construction affording added strength and precluding all danger of the slightest misalignment between crankshaft and reverse gear. Accessibility is also increased by this method of base design.

Another Van Blerck Reduction Job

One of a Pair of the New Twin Sixes Installed in Cabrilla With Direct-Connected Reducing Gears—Motor Speed, Fourteen Hundred R.P.M.; Propeller Speed, Seven Hundred; Four Hundred H.P.

THE accompanying photographs illustrate one of a pair of engines manufactured by the Van Blerck Motor Co., of Monroe, Mich., which were recently shipped to August Heckscher, of Huntington, L. I., for installation in his 110-foot Cabrilla. Owing to the length and weight of the boat, it was not considered practical to operate the propellers at over 700 r.p.m., but 800 h.p. was required, so it was decided to install a pair of Van Blerck Twin-Six, twelve-cylinder 6x7-inch motors in connection with reduction gears at a ratio of 2 to 1—the engines operating at 1,400 r.p.m., and the wheels at half that speed.

The reduction gears are of the same type as used in previous Van Blerck gear reduction installations. The gears are double helical cut from solid billets of chrome nickel steel, and both gears are floated at each end by exceptionally big thrust bearings. They are enclosed in a housing that is water-jacketed. In the various tests to which these outfits were subjected it was proved that the gear box is considerably less noisy than the engine, while it is contended by the manufacturer that the engine itself is one of the quietest ever developed in this country.

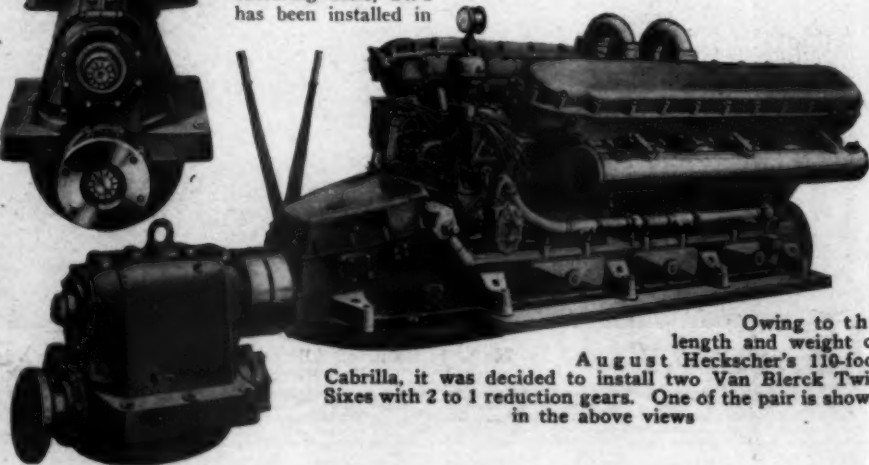
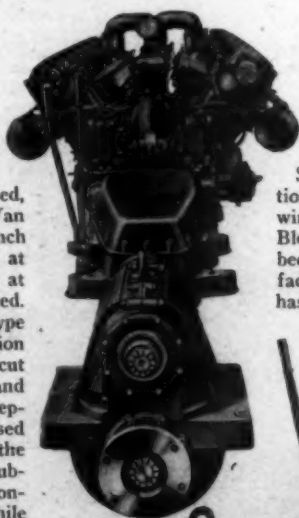
The whole outfit, engine and gear box, weighs 4,500 pounds and is capable of delivering 400 h.p. to the propeller. The total net

cost of such an outfit is \$7,250, complete with reduction gear, electric starter, generator and full regular engine equipment.

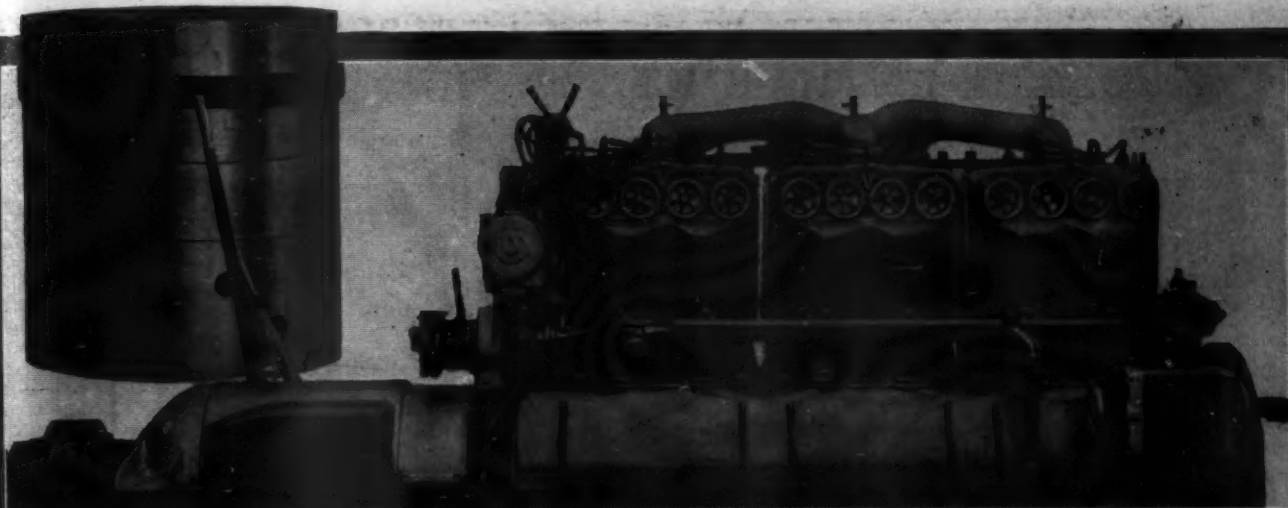
Since its introduction at the Show last winter the new Van Blerck Twin-Six has been put on a manufacturing basis, and has been installed in

many of the finest of the season's new boats. Absolute interchangeability of parts characterizes this big twelve-cylinder machine, every little part being jigged and tooled with nothing left to guesswork.

A number of rather unique features are incorporated in its design, chief among which is the four-valve-per-cylinder construction. All of these valves have 2¼-inch openings, and they are operated by overhead camshafts, thus eliminating push rods, guides and the like. The overhead camshaft and mechanism of each block of six cylinders is enclosed by a hood.



Owing to the length and weight of August Heckscher's 110-foot Cabrilla, it was decided to install two Van Blerck Twin Sixes with 2 to 1 reduction gears. One of the pair is shown in the above views



Starboard side of one of the new six-cylinder Duesenbergs, manufactured by the Loew-Victor Engine Co. The motor is fitted with a Leece-Neville electric system and weighs 2,500 pounds complete. Note the one-ring aluminum piston in the insert

Details of the Duesenbergs

A Description of Some of the More Important Features of the Duesenberg Motors—Six-Cylinder $6\frac{3}{4} \times 7\frac{3}{4}$ -Inch Machine Rates 200-300 H. P.

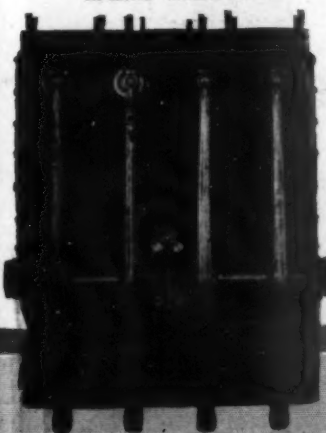
IN a year which has been unique in the number of developments and refinements which have been effected in marine motors, the new Duesenberg engines of the Loew-Victor Engine Co. have come in for a large share of merited attention. The Duesenberg principles of engine design are not of the year 1916, for racing cars powered with motors bearing this engineer's name have

for some time been winning laurels for themselves on dirt tracks and speedways, while in 1915 the famous Disturber IV, powered with two Duesies of huge size, set a new high-water mark in speed boat racing. However, it remained for the Loew-Victor Company this year to develop the Duesenberg engine in a commercial way and place machines of this type on the open market where yachtsmen in general might obtain them for their express cruisers.

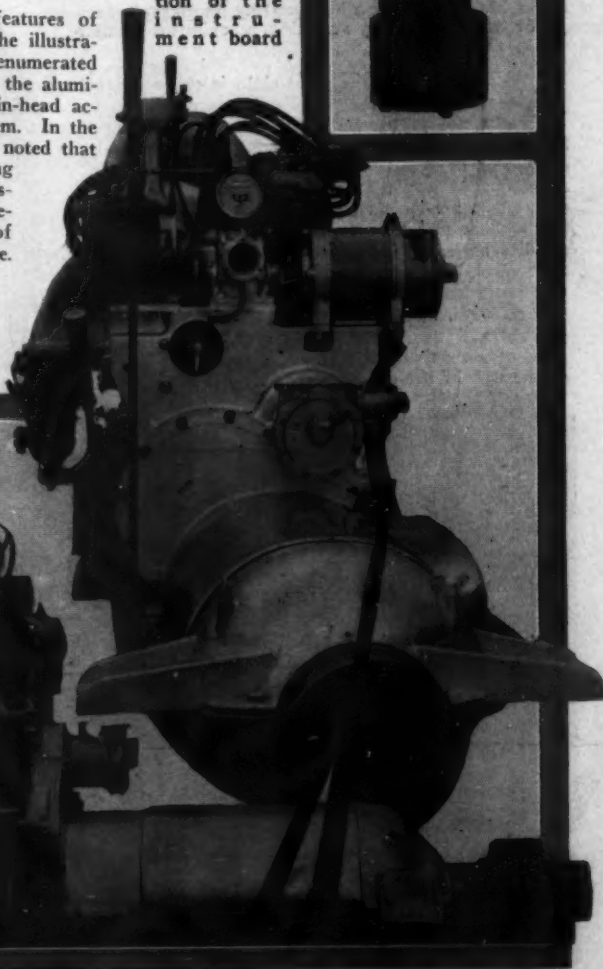
Some of the more prominent features of Duesenberg design are shown in the illustrations on this page, and may be enumerated as follows: the centralized control, the aluminum pistons, the horizontal valve-in-head action, and the double oil pump system. In the rear view of the engine it will be noted that the magneto, distributor, charging generator, tachometer and oil pressure gauge are all placed in an elevated position, where they are out of the way and yet unusually accessible.

The pressure oil pump, shown at the right, is entirely submerged when in operation. —Note below, the convenient location of the instrument board

Duesenberg cylinder block, showing the horizontal valve-in-head construction



In the bottom illustration may be seen the pressure oil pump at the forward end and the scavenging pump aft. The lubricating system is a feature of this motor



A Machine Which Knows How to Breathe

A man who works near the water knows how to swim, and not every person on deck can retain his composure when he is suddenly and plunges him into the water. Although not often met with, drowning is a very real danger, and every reasonable precaution should be taken to prevent it. The new emergency type Pulmotor, which was developed by the American Red Cross, is a machine which will automatically restore his natural breathing.



A boy in swimming may become exhausted. Will you effect his resuscitation by bungling haphazard methods, or will you employ scientific, mechanical means?

As a majority of the yacht clubs in this country are conducted, the physical wants of the well man are pretty fully attended to. Although there may not be a caterer on the premises, edibles and drinkables of some sort are usually provided. In an analogous way the ordinary wants of the units of the fleet are looked after, and the boats come up to the float and take on their fuel, oil and other supplies as a matter of course. But the boats, in most cases, have the advantage over their owners in that provision is made to care for them—with marine railways, mechanics, etc.—when they meet with accident.

To be sure, there may be an emergency kit hung on the wall of the clubhouse for the use of the man



The mask is clamped over the patient's face, and the pressure control valve, governed by a hand lever, automatically restores his natural breathing



The new emergency type Pulmotor is invaluable to any boating organization. It weighs only twelve pounds, its operation is simplicity itself, and its presence may well mean the difference between death and life

who has cut his finger or barked his shin, and there is undoubtedly a ring buoy on the float which may be flung to the one who is struggling in the water. But what of the man who can't get to the emergency kit—who can't grasp the life preserver that is thrown him? It is usually a case of half a dozen incompetents scurrying around, wondering what to do next and arguing over the proper methods of re-

(Continued on page 52)

FROM Motor BOATING READERS

This department of MoToR Boating is maintained for the purpose of giving its readers opportunity to ask questions, reply to other correspondents' communications and submit ideas, suggestions, opinions or experiences which may be of interest and assistance to motor boatmen. There are no rules governing the department other than that postage must be enclosed when an answer by mail is desired,

and that the name and address of the writer must be given in each instance. No anonymous contributions will be considered for publication, but initials or a pseudonym will be substituted for the writer's own name if the request be made. The editor does not, of course, hold himself responsible for statements made or opinions expressed by contributors to this department.

The Dangers of Hell Gate

To the Editor of MoToR Boating:

I have been a reader and subscriber of MoToR Boating even since it was started, and now for the first time I am going to ask you a favor. There is certain information I must have, and I believe you are headquarters.

I am planning to charter a 33-foot 6-inch by 9-foot raised-deck cruiser of very heavy construction (drawing four full feet) for six weeks. I want to take a party of four or six and cruise up the Sound, through the Cape Cod Canal, to Provincetown, to Boston, and perhaps to Portland, Me., and even farther.

I do not claim to be a practical navigator, although I have been a student, and have had twenty years' experience with boats of all sorts, my home having been in Bayonne, N. J., before I came here; I have owned and operated gasoline motors from the very earliest type. I have also owned sailing boats, sloops and cats up to 30 feet and never had any trouble more than was to be expected. For the past few years we have been going to Provincetown and were there when the canal was opened. We have always been able to charter a gasoline fishing boat and have gone in for deep sea fishing.

Now, the man who owns the boat I want to charter seems to be a first-class chap, and names a price which is thoroughly satisfactory. The motor is a six-cylinder, two-cycle, with gear and controls from the deck (raised).

The boat is located and will be delivered to me at Patchogue, N. Y. The owner states that she draws four feet full and the only way east from Patchogue to the Sound seldom affords over three feet of water, but that it is perfectly possible to make the trip east outside the beach, which is 70 miles into the Sound, or by way of New York, which would, of course, make the run up the Sound necessary. I do not mind this at all, but dread going through Hell Gate. I have run right through the middle of the Hudson River down to Fort Wadsworth in a small 15-foot open boat and have had my experience in heavy weather, but understand Hell Gate is as bad as its name, especially with a foul tide. What would you advise? Could I run up the Hudson and through the Harlem Ship Canal and thus avoid Hell Gate, coming out somewhere in the Sound near Harts Island? I may be wrong on this, but want to keep out of Hell Gate if possible, although I shall go through it if actually necessary.

I have been up the Sound a great many times, and as I do not plan any night running I do not think there is any more than a normal risk in such a trip, do you?

According to my plan, we would touch at Block Island, which should be about 15 miles from Montauk Point, according to the chart. Do you think we would strike very heavy weather on this little strip and from Block Island across to the other side?

Any and all information regarding this matter will be thoroughly appreciated and I would especially request you to furnish me with a list of the charts

required, also the name of the establishment in New York where they may be purchased. Please also give me a complete list of just what the Government requirements will be on this boat.

A. K. B., Cleveland, Ohio.

[A raised-deck cruiser of 33 feet 6 inches in length by 9 feet beam, of heavy construction, seems an ideal outfit to make the cruise which you are planning. However, we would not care to vouch for the six-cylinder 24 h.p. two-cycle motor. We have never had any personal experience with one of this make, and for that reason we would not care to recommend it. We do know that the motor is no longer built and probably the one you have in mind was made several years ago. A 24 h.p. model in a six-cylinder size is not one we would choose for our own boat by a great deal, especially in a heavy cruiser, and the chances are that when this particular motor was built the art of building marine motors had not reached the stage of perfection which it now has, in the six-cylinder sizes. We would strongly recommend that you see the outfit run before making any deposit or else make your option so read that you have the privilege of taking it up provided the motor proves satisfactory in a trial trip. Of course, we may be wrong in our prophecy, but we would strongly recommend you to go very slowly before acting.

In regard to charts we would suggest that you write to the Coast and Geodetic Survey, Department of Commerce, Washington, D. C., for a catalogue of their charts, Coast Pilots and Tide Tables. This will contain a list of all charts which they publish, their prices and all the dealers in every city who handle the publications. The catalogue will be sent to you gratis upon receipt of request.

You should also have on board a Light List for the Atlantic Coast, which will give you a great deal of information regarding lights, buoys and, in fact, all aids to navigation. This book will also be sent to you free of charge from the same department. Another publication which you should not fail to get is the Coast Pilot. You will find these listed in the catalogue referred to above and you can pick out the particular volumes which meet your needs. The price of each is only 50 cents,

but they contain an immense amount of information which is invaluable to the motor boatman on a cruise.

In regard to your fear of Hell Gate, we believe this is very much exaggerated. The writer would much prefer to go through Hell Gate a dozen times in a 33-footer than attempt to navigate the shoal waters around Patchogue. If you go up the East River and through Hell Gate with a flood tide, planning your trip for about the middle of the day, except on a Saturday or Sunday, you will meet little or no difficulty. The traffic at this time of the day is not bad, and you will have nothing to fear.

It will not be possible for you to avoid Hell Gate. Even if you go up the Hudson River through Spuyten Duyvil and down the Harlem River, you will enter the East River at Hell Gate. This route would be a great deal longer than directly up the East River, and you will still be obliged to go through the Gate. There is a small passage known as Bronx Kills north of Randalls and Wards Islands, but this is full of rocks and not navigable unless one is familiar with it. There is no passage through to the Sound in the vicinity of Harts Island.

We would not want to say that you will not experience heavy weather in the vicinity of Block Island, for such a statement would hardly be true, but the runs which you have in mind are comparatively short and by picking your weather, you can be practically certain to find exactly that for which you are looking. The cruise you have in mind is very feasible provided you do not have to make a certain run every day in spite of the weather.

The Government requirements for a 33-foot cruiser are as follows:—white light forward, lens at least 19 square inches; white stern light; green starboard light; red port light, lens at least 16 square inches; screens at least 18 inches long; lenses—fresnel or fluted glass; whistle capable of producing a blast prolonged for at least two seconds, fog horn and fog bell; one life preserver for each person on board; a fire extinguisher capable of extinguishing gasoline fires, and two copies of the Pilot Rules.]



The large new runabout of Reginald Foster, just completed at Lawley's and now in commission. The boat was designed by E. N. Burwell, and is 47 feet long by 8 feet beam. She is exceedingly roomy and the engine, a six-cylinder $5\frac{1}{4}$ x $6\frac{3}{4}$ -inch Sterling, is housed in amidships, dividing the interior of the boat into three compartments, as follows: A helmsman's cockpit forward, engine compartment which is provided with hinged hatches and brass ventilators, and a cockpit for the owner and guests in the stern. The two cockpits are protected from rain by water-proof spray hoods of the melon type. The design is somewhat unusual, the big overhang of the bow being especially noticeable.

Lighting a 25-Footer

To the Editor of MoToR Boating:

We purpose to install a complete electric light system in a 25-foot glass cabin cruiser. The system is to be as follows: A D.C. generator driven from the flywheel of the engine is to supply current for charging a suitable storage battery, and is also to be run independently should the necessity arise. We have the generator which was originally a 110-volt D.C. motor of good design (1/6 h.p.). It is our intention to rewind for an output suitable for the system, which would necessarily imply that it be a shunt winding. Referring to MoToR Boating, June, 1913, we find a very comprehensive article on electric lighting which assures us that with a 6-volt system we can have an abundance of light. The questions in our minds follow in their order:

1. Of what capacity should our storage battery be to supply current for the following lights—searchlight, side lights and stern light, not less than 24 c.p. in the cabin, possibly some light in toilet, light in galley, light (dome) in the engine-room and engine ignition? The engine is a heavy-duty 6 h.p. make and break Palmer. If you will refer to the June, 1913, issue of MoToR Boating you will observe that the article I have mentioned states that a 6-volt system delivering about 80 watts will supply plenty of current for lamps aggregating 80 c.p. The question again arises—what capacity must the battery have?
2. For what voltage shall I wire the generator? (To charge the battery or carry the full load alone.)
3. Would you suggest two storage batteries of equal capacity in series?
4. Could you give the size of wire needed for the generator wiring?

The idea is to have a well-lighted cabin with sufficient current output back of it.

T. B. G., Newark, N. J.

[In selecting the storage battery of proper capacity for any outfit it is well to choose one of a capacity which will give you 10 hours continual service with full load on. For example, if the total candlepower of all your lights is 100 and you use good tungsten lights, then 100 c.p. will consume 150 watts. Then if you use a 6-volt system, your maximum discharge rate will be 25 amperes and a battery to give you this rate for 10 hours would have to be of 250-ampere-hour capacity. If you are using a 12-volt system, your discharge rate will be only 12½ amperes, which will require a 12-volt storage battery of 125-ampere-hour capacity.

Of course, the above does not mean that your outfit cannot obtain lights totaling more than 100 c.p. It simply means that normally you should not use

greater. If you decide on a 6-volt system your generator should be designed to develop 10 volts at the speed at which you intend to run it, and about 18 volts for a 12-volt system.

Two storage batteries of equal capacity in series will of course give you double the voltage of one battery, and double the capacity of one battery. There is no special object in such an arrangement, yet there is no objection.

We cannot give you the size of wire necessary for the generator winding, as this depends on a great number of factors with which you have not acquainted us.]

A Choice of Routes to Florida

To the Editor of MoToR Boating:

I wish to take a trip from Chicago to Daytona, Fla. Can I go via the Mississippi and say the Ohio River to the eastern inside course to Jacksonville (which I would prefer), or would I have to go to New Orleans? How many locks are there and about what would be the expense for this trip? Have you charts and a description of the trip?

J. A. R., Ingleside, Ill.

[To the best of our knowledge it is not possible for a boat of any draft to reach the East Coast from Chicago by way of the Mississippi and Ohio Rivers. There is, to be sure, a canal of some thirty-five miles' length connecting the upper waters of the Ohio with the Potomac, but it is our recollection this is now used only by small boats. Your course, therefore, will have to lie through the Lakes to the St. Lawrence, down Lake Champlain and the Champlain Canal to the Hudson River at Albany, thence down to New York and so via the Inside Route to Florida. As you have not given us the length of your boat we cannot tell you the exact toll charges for this route, but they will amount to approximately \$6 at the entrance to the Delaware and

Raritan Canal at New Brunswick, N. J.; \$4 at the Delaware and Chesapeake Canal at Delaware City, Md., and a total of 35 cents per foot at the toll chains below Jacksonville, Fla. No charge is made for passage through the Champlain Canal, but as the work is still in process of construction, it will be necessary to obtain permission in advance from the Superintendent of Public Works, at Albany, N. Y.

It will be necessary to have coast charts of this trip, and these may be obtained from Rand, McNally & Co., who are the local agents in Chicago, or at any of the larger cities along the Atlantic Coast. You will also require Lake charts, and these may also be purchased at Rand-McNally's or from the United States Lake Survey office at Detroit, Mich. Volumes 4, 5 and 6 and Section D of the Coast Pilot together with the Inside Route Pilot will be needed to supplement the information contained in the coast charts, and the Lake Survey office has recently published Bulletin No. 25 which will be found valuable in navigating the Lakes.

It will thus be seen that it is not necessary to go via New Orleans to reach the East Coast of Florida, but should you desire to do so, the route will be found very attractive. From above New Orleans the course lies through Lake Pontchartrain, Lake Borgne, Mississippi Sound and so on eastward along the Gulf Coast and down the West Coast of Florida until the Caloosa River is reached. A good deal of this running is along the inside route, but there is a good deal of outside work to be done along a section of our coast line which at certain seasons of the year is quite treacherous. Arrived at Fort Myers on the Caloosahatchee your way will lie up this crooked river to Lake Okechobee whose southern end you will cross to gain the entrance to the North New River Canal which terminates at Fort Lauderdale. From here it is only a comparatively short inside run northward to Daytona. Charts covering the Mississippi are published by the War Office, and those of the Gulf Coast may be obtained from the agency above mentioned. The Inside Route

Pilot from New Orleans to Key West which is published by the Coast and Geo-



more than 100 c.p. at one time. You might have 200 or 300 c.p., provided that you only use the proper proportion of these lights at once.

As to the proper voltage, we think you will find 6 volts satisfactory although 12 would be best, but the cost will be

Motor ferry on the Willamette River at Portland, Ore. This boat is powered with two type DM, four-cylinder 5¼ x 7-inch Wisconsin motors turning 24 x 36-inch propellers at 750 r.p.m. The speed is claimed to be 15½ miles per hour

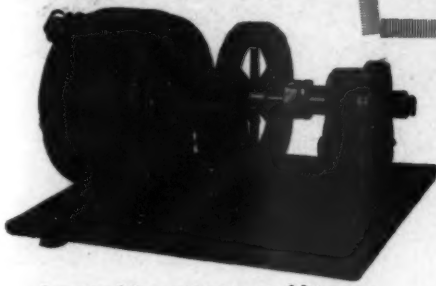
detic Survey will be found especially valuable. Three new lights have recently been established near Okechobee which are of great assistance. In the next issue we shall describe the route from New York to Jacksonville in detail.]

New Things For

MOTOR BOATMEN

[Each month many new parts, attachments and fittings, interesting and invaluable to owners of large and small motor boats, are added to the devices already on the market. Announcements of these articles come to us in such numbers that in order to introduce all of them to our readers we have been obliged to omit descriptions and publish only illustrations with short explanatory captions. In doing this, however, we urgently

invite our readers to write us for complete information, as we shall take the greatest pleasure in providing it together with the manufacturers' names and addresses. Do not hesitate to ask us, as we have made special arrangements to take care of this branch of our correspondence and are able to give you accurate information with the greatest promptness.—Editor.



A motor-driven water pump of large capacity, suitable for clubhouse and shore stations



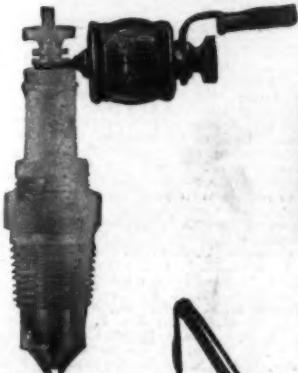
By use of a set of these plugs, an engine can be fitted with two entirely separate ignition systems



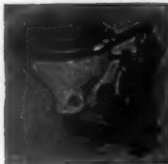
A small electric motor-generator set, useful for charging all types of storage batteries



A new model of a well-known air cracker, designed for aeroplane motors



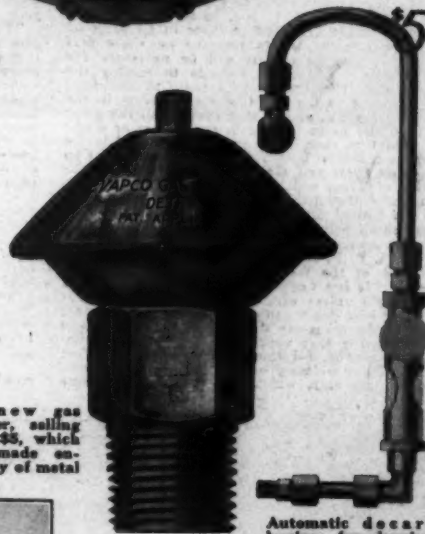
Spark gap, designed to show the efficiency of a spark plug in its cylinder



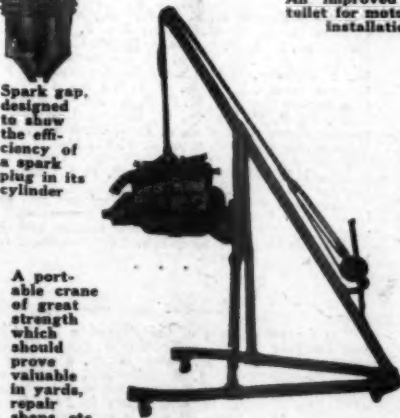
An improved pump outlet for motor boat installation



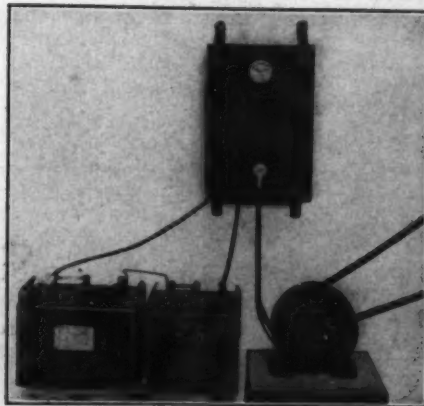
Gasoline blow-torch for heating and soldering — sold for \$1.50



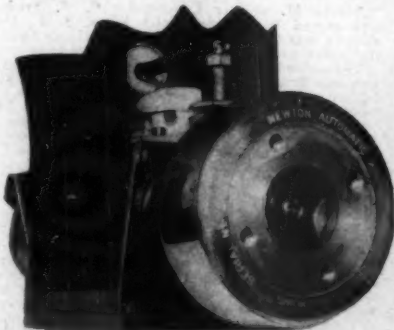
A new gas saver, selling for \$5, which is made entirely of metal



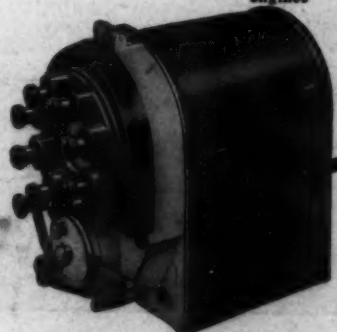
A portable crane of great strength which should prove valuable in yards, repair shops, etc.



Charging set for storage batteries, which has many good features



An automatic spark advancing coupling for promoting easy starting



A new high tension magneto, made for all types of motors

Do not fail to write to the editor if you desire information concerning any of the above new things

Among the Clubs

The Position of the A. P. B. A.

There is no doubt that Miss Minneapolis is one of the fastest boats ever built. She demonstrated this in the recent regatta of the Mississippi Valley Power Boat Association and again at Put-in Bay a few weeks ago. To date, no boat has appeared which questions her right to the speed laurels, and the motor boatmen of the east have heartily congratulated the west for her achievements. Every effort is being made by the Miss Detroit Power Boat Association and the American Power Boat Association to have Miss Minneapolis entered for the Gold Cup races which will be the one event of the year, when practically all speed boats in the country worth while will get together to compete for the greatest of America's motor boat trophies. That Miss Minneapolis would have an excellent chance of taking this coveted trophy further west is conceded by everyone. However, some officials of the Mississippi Valley Power Boat Association seem to question the sincerity of the efforts of the parties which will have charge of the Gold Cup races, and in a recent article in one of the western publications the secretary of the M. V. P. B. A., under the heading—"The West has the Speed," wrote in part the following:

"Under these circumstances it is particularly interesting to note that the American Power Boat Association may endeavor to bar both these boats from the Gold Cup race scheduled at Detroit, even though Miss Minneapolis has never raced for a cash prize."

President Albert L. Judson, of the American Power Boat Association, justly took exception to the above paragraph in the article and his reply is such a fair, reasonable and broad statement of the aims and interests of the American Power Boat Association in the sport of motor boat racing, that we believe that his statement should be published in full over his signature, not for the purpose of starting a controversy on the subject, but in acquaintance with the motor boatmen of the country with the real conditions.—Editor.

Mr. Judson's Reply

"The statement (quoted above) is so untrue and unfriendly that I am unable to determine the reason of it and such assertions certainly do not help the interests of motor boating 'In the Heart of America' or in any other place, and will tend to foster factional feeling rather than to allay it.

"Speaking for the A. P. B. A., I can truthfully say that we are glad of the great records made by Disturber IV and Miss Minneapolis for the benefit of the sport that such performances bring and tending to accomplish the objects for which we are organized, as per Article II of our Articles of Association, viz.: to promote the use of power boats and the improvement of their design and power construction, to formulate rules to govern trials of speed and endurance between such boats.

"That the best performances to date have been made by boats in the west will, I hope, be an incentive, not only to those in the east, but to those in all parts of the United States, to try to improve on those performances. It may be that it will be necessary for those who want to beat the records to employ the builder of Miss Minneapolis to accomplish the feat, as has been done in the last few years, except in the case of Disturber IV, and in that event shall the glory go to the builder or to the north, south, east or west?

"The Gold Cup race is an annual event and is for the American Power Boat Association Challenge Cup for Forty-foot Class and Under and is run under the Declaration of Trust which governs the contest. That it has usually attracted to its entry list the fastest boats in the United States is a tribute to the fact that those who raced believed it to be a fair contest under proper rules and conditions; it is for the Championship of the A. P. B. A., and it has never posed as the Championship of the World or of the United States; necessarily, it is run under our rules and no one need or can compete unless willing to abide by and accept them; if any boat desires to compete, her owners must comply with the necessary details. Therefore, I have warrant in saying that your statement is unjust, unfriendly and untrue, for there has never been a time when we did not welcome to these contests any boat, representing any club, which would comply with our



Sterling silver trophies offered by MoToR Boating for various competitions. Full information as to details may be had by writing the editor

rules; obviously, if they will not comply, we cannot admit them to contest with those who will do so.

"We have had considerable correspondence with the owners of Miss Minneapolis and in all of this correspondence we have urged the entry of the boat for the Gold Cup Races, and I believe that everything is now understood and that all of the necessary rules have been and will be complied with. Several letters have been mailed to Commodore Pugh urging him to send Disturber IV, but to one of these have we had the courtesy of a reply.

"Of course, I cannot fathom the reason for your article and will not attempt to do so, but I cannot permit to go without earnest and vigorous denial the statement that 'the American Power Boat Association may endeavor to bar both these boats from the Gold Cup race.' Whether intended so or not, the article gives the impression that we would bar the boats for a reason which would not be a worthy or reasonable one, when the actual facts in the case will show that we have used our utmost efforts to have them compete and to make it possible for them to do so.

"There is positively no justice or truth in your article and it is evidence that you have no appreciation of the objects and aims of the A. P. B. A. or the character of the men who are charged with the management of its affairs. We have tried our best to bring about a union of the east and west for the benefit of the sport; if the opinion as expressed in your article is a true reflection of the general opinion in the west, I am not surprised that we have been unsuccessful. If you can name one case of unworthy effort on our part, or any one instance that would warrant your article, I will be glad to have it.

"Yours very truly,
"(Signed) ALBERT L. JUDSON,
"President."

Power Squadrons Active

Several of the local squadrons of the United States Power Squadrons in Districts Nos. 2, 4 and 5 tried the experiment of having a joint drill on Long Island Sound, August 6. Invitations to participate were extended to the Hudson River, Albany, Huguenot, Huntington, New Haven, Bayside and Newburgh squadrons with the result that eighteen

squadron boats and upwards of fifty squadron members reported.

The drill was in charge of Chief Commander Coe, assisted by Vice Commander Chapman and Rear Commander Huested. Commander Marshall, of the Hudson River Power Squadron; Commander Bell, of the Huguenot Power Squadron of New Rochelle, and Commander Rock, of the Power Squadron of the Bayside Yacht Club, were also present, together with Treasurer Murphy and Flag Lieutenant Williams, of the National organization.

While not perfect by a considerable margin, yet the drill demonstrated the possibilities of the new code of the Power Squadrons and showed what could be accomplished by a collection of boats which had never been together before. The weather on the day on which the drill was held was very poor, as a heavy mist made the distinguishing of signals very difficult, although every odd numbered boat repeated the signals of the flag-boat. Lack of wind caused further embarrassment to the reading of the signal flags.

All captains reported aboard the flag-boat Farad, anchored off the Manhasset Bay Yacht Club, promptly at 10 A. M. to receive their positions in line and other instructions.

The assignments were as follows:—Flagship Abtram, Chief Commander Coe, U. S. P. S.; No. 1, Farad, Vice Commander Chapman, U. S. P. S.; No. 2, Louise, Rear Commander Huested, U. S. P. S.; No. 3, Alldor, Commander Bell, H. P. S. of N. R.; No. 4, Marilepe, Flag Lieutenant Williams, U. S. P. S.; No. 5, Gardenia, Captain Anderson, H. P. S. of N. R.; No. 6, Cumoodie, Captain Crow, H. P. S.; No. 7, Spark, Captain Robertson, H. B. P. S.; No. 8, Helen, Captain Sherman, H. R. P. S.; No. 9, Pal II, Lieutenant Commander W. S. Scholey, H. P. S. of N. R.; No. 10, Roamer, Captain Wenta, H. P. S. of N. R.; No. 11, Pandango, Commander Marshall, H. R. P. S.; No. 12, Zita, Captain Lally, H. R. P. S.; No. 13, Evelyn, Lieutenant Commander Grossmann, P. S. of B. Y. C.; No. 14, Florence, Commander Rock, P. S. of B. Y. C.; No. 15, Wealaka, Captain Allen, H. P. S. of N. R. Dispatch boats, Amalia III, Aid Reinschild, U. S. P. S.; Mon Plaisir, Captain Latimer, H. R. P. S.

Altogether forty signals were displayed and executed in the two hours which the drill consumed. Taken altogether, the maneuvers were a success and the plan of joint drills could be followed to advantage in other localities.

A Lake Erie Race

The forty-mile race of the Riverside Boat Club was run on July 15, from Toledo to Put-in Bay, under the 1916 A. P. B. A. rules. Cozy, a cruiser owned by Ballentine Bros., J. R. Ballentine, skipper, was the winner, and she made the distance in the elapsed time of 4 hrs. 7 min. 36 sec. Cozy is 23.3 ft. on the waterline, 24 ft. over all and is equipped with a Gray 4 h.p. Model "S" motor.

Bertha II, skipper Commander C. F. Fredericks, was second in the race, and Viola, J. F. Hauser, skipper, was third. Wap, Flora and Minnie finished in the order named.

The second annual race of the Riverside Boat Club was run from Toledo to Monroe via Toledo Harbor Lights on July 2, a distance of twenty miles. Cozy figured as winner and made the course in 2 hrs. 10 min. 18 sec. Bertha was second, corrected time being 2 hrs. 10 min. 18 sec. Viola II was third, corrected time being 2 hrs. 13 min. 55 sec. Iris was fourth, corrected time being 2 hrs. 14 min. 46 sec.

Twelfth Annual Regatta of H. R. Y. R. A.

The twelfth annual regatta of the Hudson River Yacht Racing Association will be held on Labor Day, September 4, at Croton Point on Hudson. The official course will be five miles in length and there will be races for sail boats, open boats, speed boats, cruisers and express cruisers, hydroplanes, and, in fact, every type of boat. Many prizes will be awarded. Address F. W. Horenberger, Chairman of the Race Committee, H. R. Y. R. A., Ft. West 147th St. and Hudson River, for details.



Baby Marold, the brand new speed wonder owned by C. H. Wills. Jack Beebe and Johnny Milot, who are "up" in the picture, expect to lead the field in the Gold Cup events



New York's thousands were attracted recently to the MoToR BoatinG window in the 34th Street store of the International Silver Co. Silver trophies offered by this magazine were on display, as well as the original paintings of two striking MoToR BoatinG covers which have appeared this summer

We Experience a Thrill of Pride

For two weeks in July and August the New York public was treated to one of the most attractive displays of silver trophies which has ever graced a shop window. The exhibition was brought about through the kindly offices of the International Silver Co., which designed and executed the MoToR BoatinG trophies for the New York and New England Race; and G. L. Thompson, of that concern, is to be congratulated for the success with which he arranged the display of cups, flags and paintings. The large punch bowl offered by this magazine for the express cruiser class in the New England race, and the famous Thomas Lipton Viking trophy, recently won by J. H. Wallace and loaned by him for the occasion, occupied the center of the window, placed on pedestals draped with yacht ensigns. At one side was the Power Squadron ensign, while overhead, through the kindness of Anness, were strung the flags of many prominent yacht clubs. At the right of the group was a model of one of the submarine chasers which the Greenport Basin & Construction Co. has been building in large numbers for the Russian Government. In the background were the originals of the June and August covers of MoToR BoatinG, painted by Wm. de L. Dodge, and reproductions of these in magazine size

were on display, framed in silver. To give the window a still more nautical flavor, an anchor occupied the center of the floor, and an engine-room telegraph, which, with the anchor, came from the Durkee shop, was placed in one of the corners. Altogether the window was a great success, eliciting a deal of favorable comment from the thousands of motor boatmen and laymen who stopped to view it.

Sterling and Preparedness

Following the good example set by New York and Chicago, Buffalo recently held a great Preparedness Parade in which over 50,000 persons marched—a



A handsome day cruiser recently sold by the Water Craft Co. to the Russian government for service at Archangel

brave front for a city of half a million. In this parade the various business houses organized companies composed of their officers and employees, who marched as separate units. Among these a splendid showing was made by the Sterling Engine Co., whose employees marched two hundred strong. The military bearing and marching of the men showed the result of considerable preliminary drilling held during the noon hours under the command of Col. Criegel, President of the Sterling Company. A band composed of members of the Sterling organization was one of the prominent features, sharing honors with the straw hat of Lieut. Houck, the new

popular works' manager of the concern. The Sterling advertising manager, Bradford Burnham, believes in preparedness, too, but happened to be cruising in a motor boat on Long Island Sound at the time of the parade. B. H. slips away to salt water whenever he can, parade or no parade, for, next to Sterling engines, there is nothing he loves so much in this life as the slap of the waves against a boat's sides and the taste of spray on his lips.

A Day Cruiser for Russia

One of the accompanying illustrations shows a 40-foot fast day cruiser sold by the Water Craft Co., of 221 Fulton St., N. Y. C., for Russian Customs service in the harbor of Archangel, Russia. This boat is finished in figured mahogany with all panels inlaid with white holly and black ebony, making a beautiful finish. While the craft is intended as a day cruiser,



Highball II, a 22-foot cruiser built by the Motor, Boat & Auto Supply Mfg. Co., for Mrs. H. S. Washington, of Huntington, W. Va.



The Sterling Company's sterling company ready to march in the great Buffalo Preparedness Parade

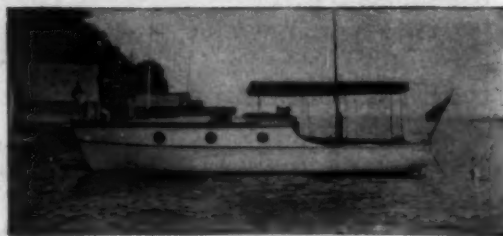


An attractive runabout which the Water Craft Co. built for exhibition at the recent Allied Bazaar. On page 7 may be seen a duplicate of this craft photographed in the act of showing her lines to the Goddess of Liberty

it has two broad upholstered transom seats in the cabin that may be used as berths. A buffet is built in in the after end of the saloon and a toilet is located in the after end of the cabin.

of them in Division II finished, Lassic. So, when the Race Committee started to hand around the trophies, the owner of Lassic, William

Up in Middletown, Conn., they're rather proud of Lassic, a unit of the club fleet which covered herself with spray and glory in the recent long distance race of the Middletown Y. C. Lassic measures only 24 1/2 feet in length by a beam of 9 feet, but she was able to show the big fellows something in the line of seaworthiness on the long race from her home port to Sachems Head. In fact, the roughness of the sea was such that some of the other contenders turned back before clearing the breakwater, while none with the exception of Lassic. So, when the Race Committee started to hand around the trophies, the owner of Lassic, William



Mabel E, a cruiser owned by E. A. Gardner, of Rochester, N. Y., which has just returned from a 500-mile troubleless cruise. She is powered with a 20 h.p. Kermath unit power plant which will never see its second birthday again

Carburetor Manufacturer Expands

Plans for greatly increasing both the manufacturing and the distributing facilities for Browne and Brown-Branford carburetors have culminated in a recapitalization of the Holt-Welch Co., Inc., of 1790 Broadway, N. Y., sole selling agents for the Browne products, an increase from \$50,000 to \$200,000 having been authorized. This will provide the company with the necessary capital to expand in both distributing and manufacturing activities, and make production proportionate with the constantly increasing demand for these carburetors.

Coyne Propeller Co. Reorganizes

The Coyne Box Turbine Propeller Co., of 515 Valencia St., San Francisco, Cal., has been recently reorganized, and application has been filed for incorporation papers. Business with the new company has been very satisfactory, a number of motor boats on the Pacific Coast having been equipped with Coyne Box Turbine propellers, with a resulting increase in forward and backing speed in every case.

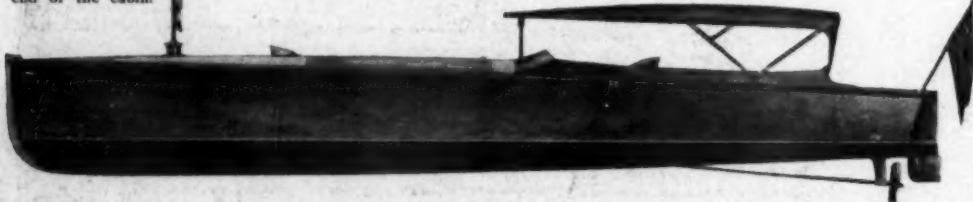
Pyrene Picks Youthful Sales Manager

To go in four years from business manager of a college paper to general sales and advertising manager of a million-dollar corporation, directing the work of more than 200 salesmen, is going some. That is the pace set by T. F. Flanagan, whose appointment to the desk left vacant by C. Louis Allen, now the company's President, has recently been announced by the Pyrene Mfg. Co. The directors of the company affirmed their belief in Young America

a few months ago, when they elected as President Mr. Allen, then Sales Manager and only 32 years old. Now the company has reaffirmed its confidence in youthful aggressiveness by the appointment of Mr. Flanagan, who is only 25 years old and out of college but four years. A few months ago the Pyrene Mfg. Co. added a complete fire appliance line to its catalogue, and during the coming year it is planning a great extension in its business. This extension means a vast amount of hard work for everyone concerned, but especially for the sales department, and it will also center on Mr. Flanagan.

Johns-Manville Window Displays

There is, perhaps, no more striking example of dealer co-operation than the many new and distinctive window displays of J-M fire extinguisher being ex-



The fast 30-foot runabout of the Albany Boat Corp. This model has been turned out in considerable numbers during the past summer

Highball II, a Gene V Cruiser

One of the cruisers turned out by the Motor, Boat and Auto Supply Mfg. Co., of Cincinnati, O., is Highball II, a 32-footer shown in an illustration on page 35. She is owned by Mrs. H. S. Washington, of Huntington, W. Va., and will be used by her on cruises around which she expects to write entertaining yarns. The boat has a beam of 8 feet 2 inches, and roominess is one of the features of the layout. Aft of the chain locker forward is the toilet room and following this is the main cabin which is 6 1/2 feet in length. Sleeping accommodations in this compartment are for four persons. Next aft, on the port side, is a well-proportioned galley, and opposite it is a 4-foot folding drop table against the side of the boat, giving ample room for four persons to be seated comfortably at one time. The size of the galley is rather unusual for a boat of this length, and the furnishings are no less so, the china closet, ice box and pantry being covered with a flat top kitchen table 6 feet in length.

The engine, a 24 h.p., four-cylinder Red Wing, which turns an 18x20-inch Hyde propeller at 750 r.p.m., is installed under a 3-foot bridge deck. Except in this compartment the headroom is a full 6 feet.

The terms of the contract called for delivery at Huntington, and so at 7 o'clock of the morning after launching a start was made, the run being continued without stopping the engine or boat until 7:30 that evening. A continuous run of this length with a new motor speaks well for the efficiency of the power plant.

Hydes on Hydros

It will no doubt be of interest to the enthusiastic motor boating world to learn that the latest speed marvel, Miss Minneapolis, used a Hyde Turbine Type propeller on her record-breaking runs. This adds another to the long list of Hyde-equipped speeders, among the most prominent being Miss Detroit, Baby Speed Demon II, Barnacle II and Buffalo Enquirer. The efficiency of Hyde wheels and their excellent balance and finish are declared to make them an ideal propeller for high speed work. Hyde propellers are also used on express cruisers, the fast Concho being equipped with Hydres and making a speed considerably in excess of 31 m.p.h. The yacht Paragon is another Hyde-equipped craft which has been in considerable prominence.

Lassic, a Triple Winner



Lassic, the sturdy little 24-footer which captured three prizes in this year's long distance race of the Middletown Y. C. Her two-cylinder 10 h.p. Frishie gives her a speed of 8 miles an hour

McQueen, drew first prize in his division, another one for having come nearest to record time of any of the entrants, and a third for being the smallest



Spark, an able 51-footer, designed and owned by George E. Robertson, of Huntington, L. I. She is equipped with a four-cylinder, 50-60 h.p. Buffalo motor

boat to finish. Three prizes in one event is quite a haul, and Lassic's owner places a large share of the credit for her performance on the two-cylinder Frishie motor with which she is equipped. This is a 4 1/2 x 5-inch 10 h.p. machine which gives a speed of 8 m.p.h.

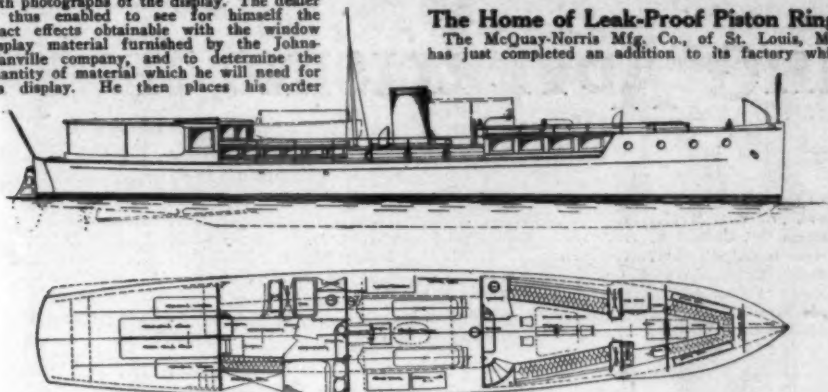
Fast St. Lawrence 30-Footer

The St. Lawrence River Motor & Machine Co., of Clayton, N. Y., has received a fast 30-foot boat, similar to the one shown in the accompanying illustration, from the Albany Boat Corp., of Watervliet, N. Y. Mr. Haas, of the St. Lawrence Company, is the local representative of the Albany Corporation, and the boat is being used for demonstration purposes. L. L. Tripp, President of the A. B. C., and Sales Manager, Webber arrived by motor in Clayton at about the time the boat was delivered, and Mr. Webber stopped around awhile to reveal the features and capabilities of the speedy craft.



Attractive window display of J-M fire extinguishers. Johns-Manville dealers throughout the country are being helped by the J-M plan of effective window dressing

hibited by Johns-Manville dealers throughout the country. One of the practices of the H. W. Johns-Manville Co., of New York City, is to dress a sample window featuring one of its products, such as shown in the accompanying illustration, and to supply its dealers with photographs of the display. The dealer is thus enabled to see for himself the exact effects obtainable with the window display material furnished by the Johns-Manville company, and to determine the quantity of material which he will need for his display. He then places his order



Plans of the 75-foot Matthews cruiser, owned by E. H. Close, of Toledo, O. This express has good accommodations and a speed of 25 m.p.h.

through his jobber, or the nearest J-M branch, and the material desired is shipped prepaid. The J-M representative in whose territory the dealer is located is then informed of the transaction, and he immediately calls to offer advisory and even manual help in arranging the display.

For the Allied Bazaar

One of the accompanying photographs shows the Bayonne branch of the Water Craft Co., of 221 Fulton St., N. Y. The boat on the truck standing in front of the building was on its way from the Water Craft Co.'s Bayonne yard to the Grand Central Palace for the recent Allied Bazaar.

Ice Water No Deterrent to This Engine

B. F. Wheeler, of Mellen, Wis., while on his way to hunt ducks, hit a pond covered with ice at 12:30 at night. The ice was much thicker than had been anticipated, so that the bow was badly damaged and the boat was half filled with water. Mr. Wheeler and his companion were 300 feet from shore when the accident happened, so they opened the engine wide and the Ferro pulled every stroke until the water rose over the carburetor. They had just reached shore when the boat went down. Although the engine was under water three days, when the boat was floated again she was started without difficulty and ran 18 miles to the boat-house. Mr. Wheeler says: "If the engine had failed us, we would not be here to tell the tale." This boat is equipped with a 15 h.p. two-cylinder Ferro engine.

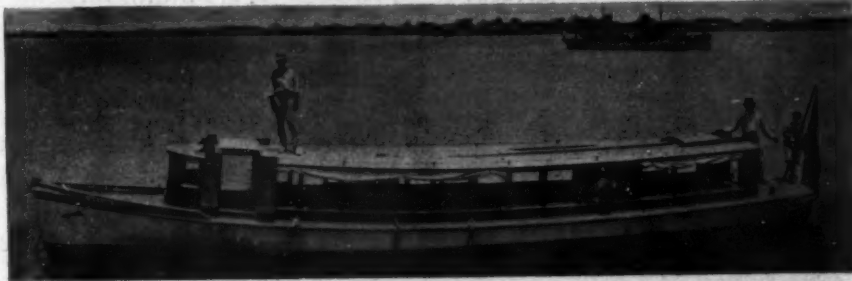
propellers were shown with the exception of the 50-inch wheel.

We very much regret the mistake and trust that our readers will show the Hyde people every courtesy in adjusting prices to the correct figures.

The Home of Leak-Proof Piston Rings

The McQuay-Norris Mfg. Co., of St. Louis, Mo., has just completed an addition to its factory which

increases the plant by one-third and gives the concern 100 feet of frontage in the heart of the St. Louis automobile district. The Leak-Proof piston ring plant is a white tile and terra-cotta front building of the most modern construction. It is devoted exclusively to the manufacture of Leak-Proof rings and Lynite pistons.



Deier, a 47-footer, in service at San Pedro de Macoris, Dominican Republic. She is equipped with a 42 h.p. Wolverine, and is practically the only means of passenger and freight transportation up the river from San Pedro



The home of Leak-Proof piston rings in the heart of the automobile district of St. Louis. The McQuay-Norris Company has recently completed an addition to this fine factory

Susanne, a 75-Footer

The accompanying line drawings show the plans of a 75x13-foot high-speed express cruiser with 4-foot draft which the Matthews Co., of Port Clinton, O., designed for E. H. Close, of Toledo, O., for use on Lake Erie. The general arrangement provides for crew's quarters forward with accommodations for three men. The galley follows immediately aft with an emergency hatch over, and the dining saloon adjoins the galley. The saloon is noteworthy for its size, the overall length being 13 feet and the greatest width 10 feet. Two extension transoms with pipe berth backs give emergency accommodations in this room for four persons.

The motor room is located amidships and is equipped with two eight-cylinder 64x9-inch Sterling motors, each developing 300 h.p. Ventilation is secured by means of ports, stack and sirocco fan. A 2 k.w. Matthews automatic lighting plant of 110-volt capacity provides current for operating the starting motors, electric lights and other electric devices on board. The owner's quarters aft consist of two double state-rooms with connecting bath.

Error in Hyde Propeller Prices in August MoToR Boating

Through a mechanical error, the prices published in the advertisement of the Hyde Windlass Co., of Bath, Me., in the August issue of MoToR Boating were incorrect. The heading in that issue states that the prices given are retail prices of Hyde Turbine Type propellers, whereas through error the prices of Gale



B. F. Wheeler, of Mellen, Wis., who had an exciting experience with river ice. His Ferro motor stood him in great stead

Quicksilver Wins Trophy; Then Weathers Hurricane

A chance which few boats are given to prove their metal was accorded, not long ago, to Quicksilver, a 51-foot express cruiser owned by Commodore Ernest Lee Jahncke, of the Southern Yacht Club. She is a new boat, designed by Swasey, Raymond & Page, and privately built from the frame up by her owner, the skeleton having been furnished by the Geo. Lawley & Son Corp. The power plant is one of the famous eight-cylinder 5½x6¾-inch Model F-8 Sterlings, an engine built expressly for the severe requirements of express cruiser service.

Shortly after her launching, the big long distance race of the Southern Yacht Club from New Orleans to Pensacola was held, and Quicksilver entered in company with several other crack cruisers of the S. Y. C. fleet. The course was 200 miles in length and a record for the distance was established, as Quicksilver covered it in ten hours' actual sailing time. On the return trip hurricane warnings were hoisted by the local weather bureau at Pensacola, and Commodore Jahncke, alarmed for the safety of his family

at Biloxi, Miss., determined to get to them and take them off the houseboat on which they were staying. The start was made at 8 A. M., in a rough sea, and Biloxi was reached that evening after heavy going, and the houseboat party taken ashore. The next morning the hurricane broke loose and great havoc was wrought, dozens of schooners and yachts being sunk or washed ashore. Instead of seeking shelter, Quicksilver ran about assisting distressed boats of all kinds and rendering invaluable service, the boat displaying her ability to weather any storm, with her powerful Sterling sending her sturdily against the heaviest seas. The wind is reported to have blown at hurricane velocity for nearly twenty hours, at one time reaching 106 miles an hour. Too much credit can hardly be given the designers, builder, or the manufacturers of her power plant for Quicksilver's successful conduct in this supreme test.

A Letter from Australia

The Kermath Mfg. Co., of Detroit, Mich., has received the following from Jack Bettini, of North Narooma, New South Wales, Australia: "I see in my March issue of MoToR Boating that you are advertising the Kermath engine. Could you kindly send me a catalogue or price list? We have had one of these engines, a 12 h.p., in a boat 28x9 feet, counter stern, drawing 3 feet and doing 10 miles an hour on her trial trips. She has been in service for the last three years, working every day and giving every satisfaction. Could you give me the total cost to Sydney, Australia, of a complete outfit of the 12 h.p. type?"



Nina, a 30-foot runabout, built by the Great Lakes Boat Bldg. Corp., for J. Hall Taylor, of Chicago. Nina is one of the standard Great Lakes Craft, and has a comfortable seating capacity for eleven persons and a speed of 21 miles. She is powered with a four-cylinder Sterling

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The "Corona." Owner, Harlan T. Stetson.

This boat Was Valsparred Just Before A Heavy Thunder Storm

IT'S no longer necessary to pray for several days of clear weather when you want to varnish your boat.

Here's a craft whose bright work was finished just as a violent summer storm broke.

Had the owner used any *ordinary spar varnish*, he would have been compelled to re-varnish the next day. But *Valspar* was his choice and *Valspar* stood the test.



Read the letter on this page. It shows what you can expect from using Valspar, the long oil, quick drying varnish.

It tells of conditions that would wreck any varnish ever made—except Valspar. And this letter was written by a practical boat

owner. His opinion is worth while, for he knows—he tried many other varnishes before using Valspar.

Do you wonder we call Valspar the *Waterproof Varnish*?

What other varnish could stand such conditions as this letter describes?

Never ask for "just varnish." Specify Valspar and protect yourself against substitutes.

VALENTINE & COMPANY
456 Fourth Avenue, New York

Largest Manufacturers of High-Grade Varnishes in the World

Trade **VALENTINE'S** Mark
ESTABLISHED 1832

New York Boston London
Chicago Toronto Amsterdam

W. P. Fuller & Co., Agents for Pacific Coast:

San Francisco	Los Angeles	Oakland	Sacramento
Stockton	San Diego	Pasadena	Long Beach
Santa Monica	Portland	Seattle	Tacoma
Spokane		Boise	

Evanston, Ill.
February 11, 1916.

VALENTINE & COMPANY,
456 Fourth Ave., New York, N. Y.

Gentlemen:—My first experience with Valspar was in the mid-season re-varnishing of the 18-foot runabout shown in the accompanying photograph. After waiting uneasily through a bad spell of unsettled weather in the middle of August, a warm, clear day finally arrived which gave promise for a good dryer. With the job half completed came signs of a thunder storm. With the last stroke of the brush wind and rain struck, and all attempts to cover the newly varnished surfaces were in vain. As night fell I abandoned the craft, thoroughly disgusted with the turn of luck. On returning to find a streaky, spotted deck waiting to be refinished. To my great surprise I found a beautiful, hard, lustrous finish, as perfect as could have been expected under the best of conditions.

I had had high hopes for Valspar, but had not planned on a test like that. Furthermore, the transom stern which had shown so badly white below the water line from previous varnishes, has given no signs of whitening since the Valspar was put on, altho I did not take pains to remove the old varnish, and the transom was re-varnished while the boat was afloat.

It is needless to add that on my new 41-foot cruiser I have used only Valspar.

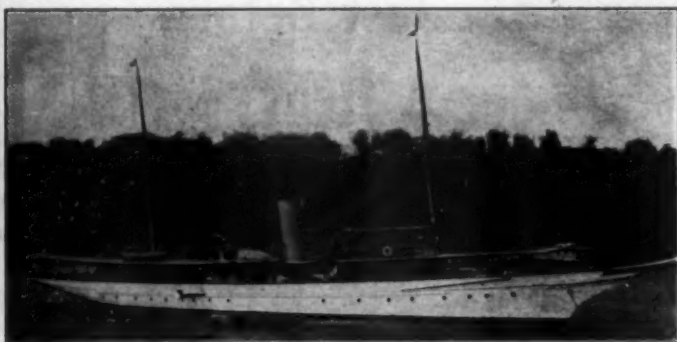
Very truly yours,
HARLAN T. STETSON.

Naval Architects
and
Yacht Brokers.

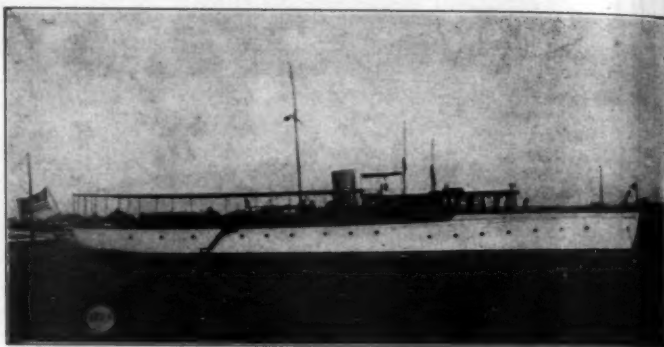
COX & STEVENS

15 William St., New York
Telephone—1375 Broad
Cable—BROKERAGE

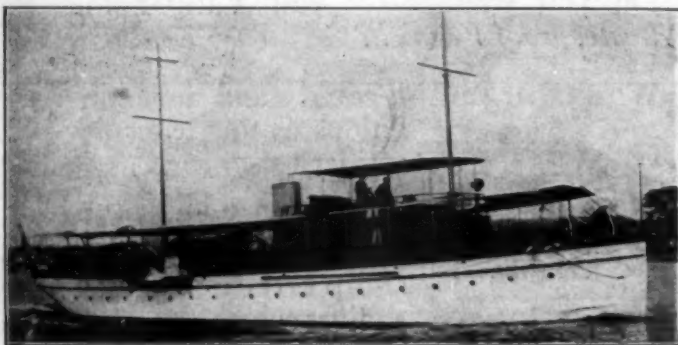
We have a complete list of all steam and power yachts, auxiliaries and houseboats available FOR SALE and CHARTER. A few are shown on this page. Plans, photographs and full particulars furnished on request. Catalogue illustrating types and sizes of yachts we have for sale will be mailed on application.



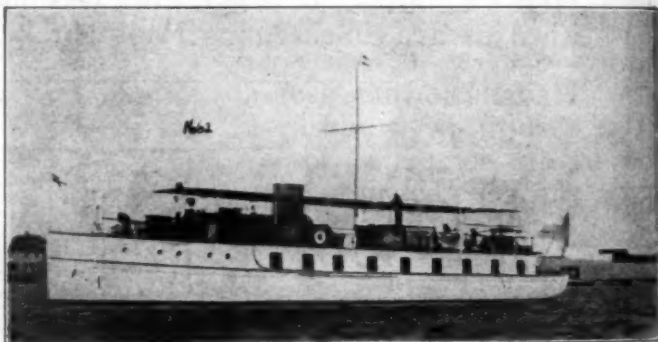
No. 229—For Sale—Fast, twin screw, steel steam yacht, 155 x 18 x 7.6 ft. Speed up to 18 miles. Dining saloon and social hall on deck. Five staterooms, two bathrooms, etc., aft. Handsomely finished and furnished. Cox & Stevens, 15 William Street, New York.



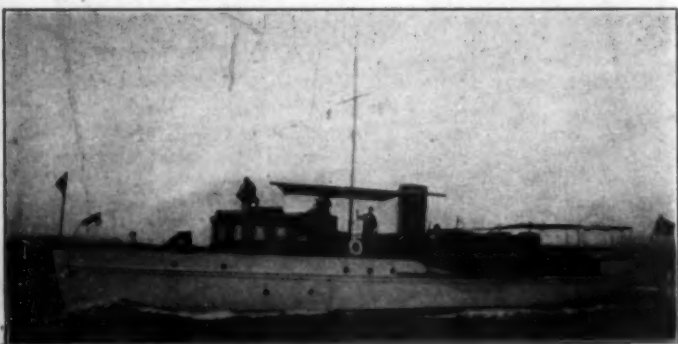
No. 885—For Sale or Charter—Handsome, fast 120 ft. twin screw steel power yacht. Speed up to 18 miles. Large dining saloon on deck, three double staterooms, main saloon, two bathrooms, etc. Price attractive. Cox & Stevens, 15 William St., New York.



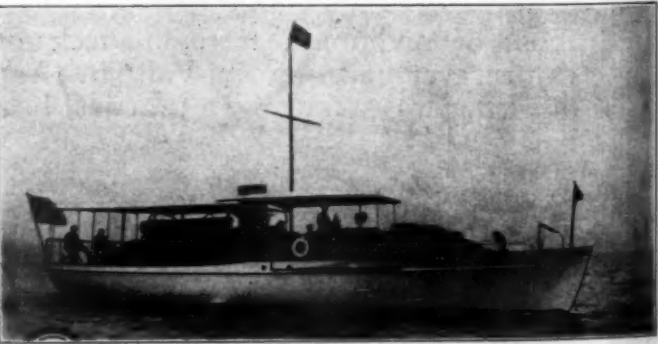
No. 1796—For Sale or Charter—Very roomy, twin screw cruising power yacht, 99 x 17 x 4 ft. Speed 13-15 miles. Standard motors. Large dining saloon, six staterooms, three bathrooms; all conveniences. Cox & Stevens, 15 William St., New York.



No. 1662—Modern gasoline houseboat, 90 x 17 x 3.5 ft. Speed 10 to 12 miles. Large dining saloon, smoking room, four staterooms, two bathrooms; all conveniences. Best craft of type available. Cox & Stevens, 15 William St., New York.



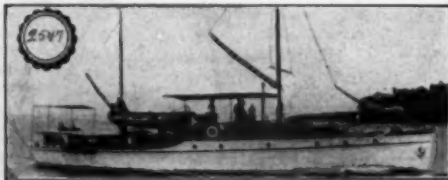
No. 2281—For Sale—Cruising power yacht, 84 x 14 x 4 ft. Speed 12-14 miles. 120 H.P. Diesel motor. Recent build. Exceedingly low cost of operation. Large accommodation. Cox & Stevens, 15 William St., New York.



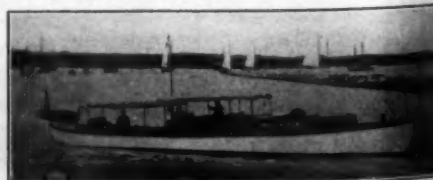
No. 2426—For Sale or Charter—Attractive gasoline cruiser, 75 x 14 x 4.6 ft. Built by well known firm 1913. Speed 12 miles. 60/90 H.P., 6-cyl. Sterling motor. Dining saloon and galley forward; two double staterooms and bath aft. Cox & Stevens, 15 William St. New York.



No. 2830—For Sale—Bridge deck cruiser, 50 x 11 x 3 ft. 40/50 H.P. 20th Century motor. Speed 11 miles. Built in 1914. Large saloon, stateroom, galley, 2 toilets, etc. In good condition. Cox & Stevens, 15 William Street, New York.



No. 2547—For Sale or Charter—Handsome, up-to-date gasoline cruiser, 64 x 12.6 x 4 ft. Speed 11 1/2 miles; 60 H.P., 6-cylinder, heavy-duty motor, controlled from bridge. Dining saloon, toilet and separate galley forward; engine room amidships; double and single stateroom and bathroom aft. Cox & Stevens, 15 William Street, New York.



No. 2825—For Sale at Low Figure—Day cruiser; 68 x 10.9 x 3.3 ft. Speed 12-13 miles; 40/60 H.P. 6-cyl. Standard motor. Saloon with two transoms, toilet, etc. Excellent condition. Cox & Stevens, 15 William St., New York.

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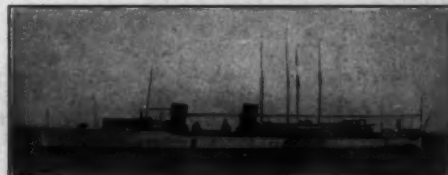
We have listed all the available Yachts for Sale and Charter that are adapted for Florida cruising and advise early selection. Full particulars upon request.
We publish the only Illustrated Yacht List of its type. Sent free to buyers.



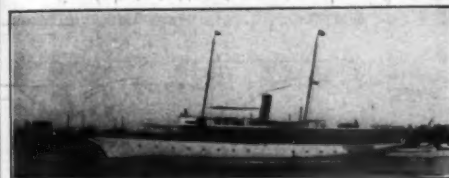
8344—275 ft. Steel Ocean-Going Cruiser. Perfect condition throughout. Low price.



7840—155 ft. Steel Coast Cruiser. Finest yacht of type for sale. In commission. Immediate delivery. Low price.



5596—125 ft. Twin Screw Steel Steam Cruiser. Speed 21 miles per hour. 3 staterooms and bath. Cost over \$70,000. Low price.



5233—Herreshoff Steam Yacht. 113 o.a., 18½ beam. 4 staterooms. 2 baths. Maintained at half the cost of gasoline boat same size. Excellent opportunity to purchase this yacht at low price in order to settle Estate.



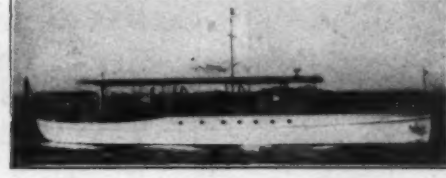
8001—For Sale or Charter—Twin Screw 105-foot Gasoline Cruiser. 4 staterooms. 2 baths. Speed 21 miles. In commission. Immediate delivery.



8022—98 ft. Twin Screw High Grade Gasoline Cruiser. In commission. Low price.



8316—For Sale—Brand new Twin Screw 83-foot gasoline Cruiser. 16½ beam, 3½ draught. 3 staterooms. Bath. Every convenience.



7978—For Charter—Twin Screw Ideal Seagoing Cruiser. 77½ ft. o.a., 17 ft. beam. 3 staterooms. Bath.



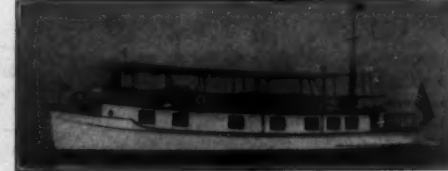
8103—71-foot Twin Screw Fast Coast Cruiser. 2 staterooms. Bath. Speed, 13 miles. Perfect condition. In commission.



7633—For Sale or Charter—Ideal shoal draught cruiser. 62 x 15. 3 staterooms. In commission. Immediate delivery.



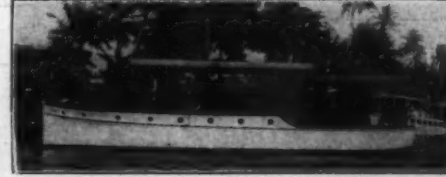
8362—For Sale or Charter—The ablest 62-foot shoal draught cruiser of type available. Extraordinary sea boat. Unusual accommodations. Now in Florida.



8063—The only 60-foot Cruiser of type for sale. 3 staterooms and bath. Practically new.



8133—The finest 55-foot Coast Cruiser for sale. Perfect condition. Low price.



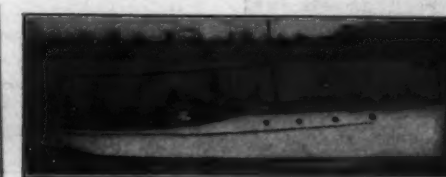
8304—Brand new 53-foot Twin Screw Cruiser. 14-foot beam. 3 feet draught. Sterling engines. In commission.



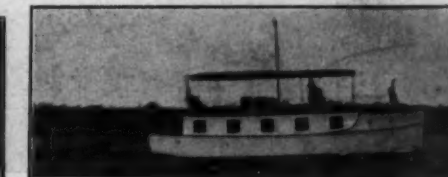
8339—For Sale or Charter—52-foot Coast Cruiser. Double stateroom and saloon. Bath. Speed 12 miles. In commission.



8255—Immediate Sale desired of this 48-foot Cruiser. 14-ft. beam, 2 ft. 10 in. draught. Launched 1915. 50 h. p. self-starting motor, new 1916. In commission.



8376—The finest and most completely equipped 45-foot Elco cruiser for Sale. Practically new. In commission. Immediate delivery. Grand opportunity.



8244—43-foot Cruiser. Exceptionally heavy construction. In commission. Low price.

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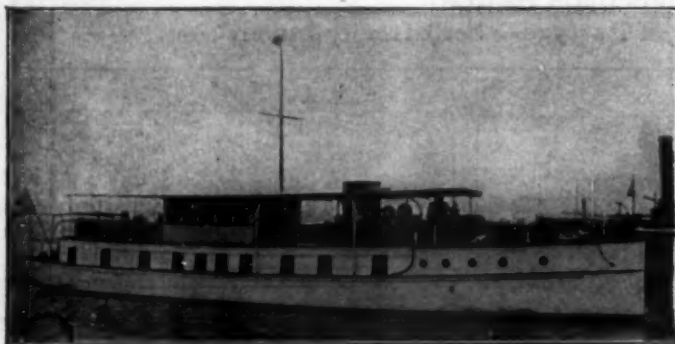
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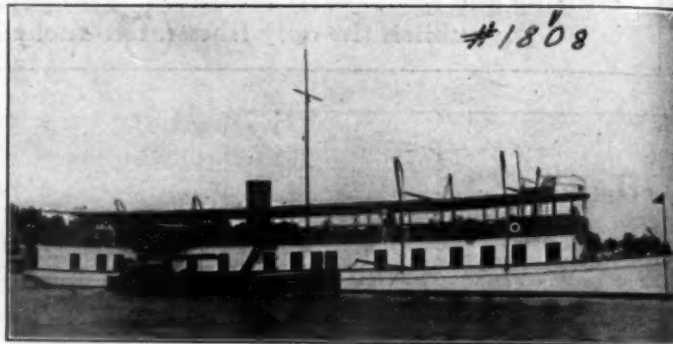
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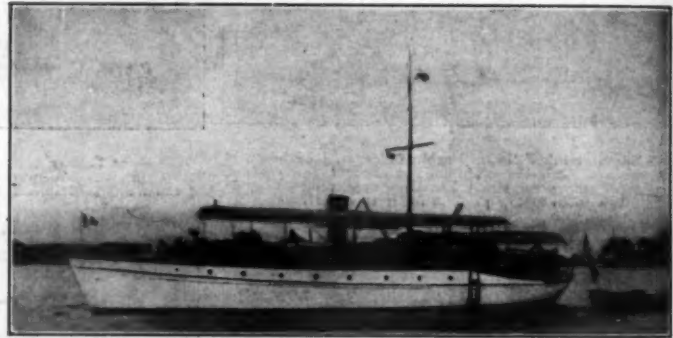
No. 1871—Sale—Charter—Modern motor houseboat. 95 ft. x 19 ft. x 3.3 draft. 4 staterooms, dining saloon, social hall, etc.



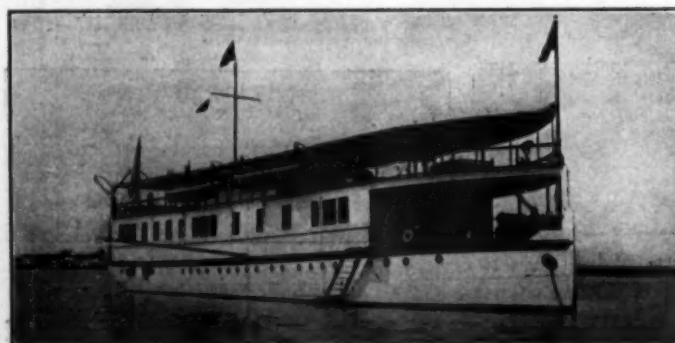
No. 1808—Sale—Charter—Twin Screw Houseboat, admirably suited for Southern waters, 125 ft. x 17 ft. 8 in. x 3 ft. 4 in. draft. 4 Large staterooms, 2 bathrooms, saloon, etc.



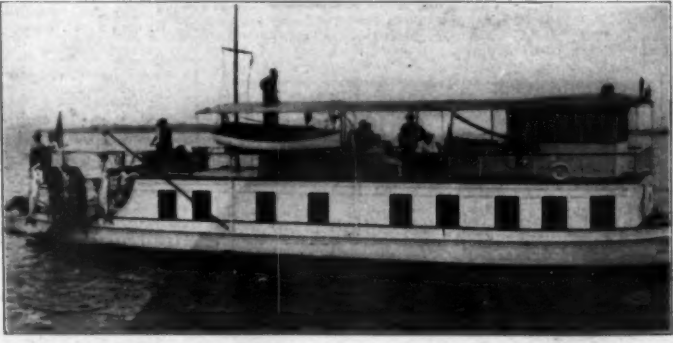
No. 8750—Sale—Charter—Most desirable twin screw gasoline cruiser available. 84 ft. x 14 ft. x 4 ft. draft. Designed by us and built 1914. Excellent accommodations.



No. 7674—Sale—Charter—Modern twin screw motor yacht 75 ft. x 17 ft. 6 in. x 3 ft. 8 in. draft—20th Century motors. Speed, 12 miles. One double and one single stateroom and very large main saloon.



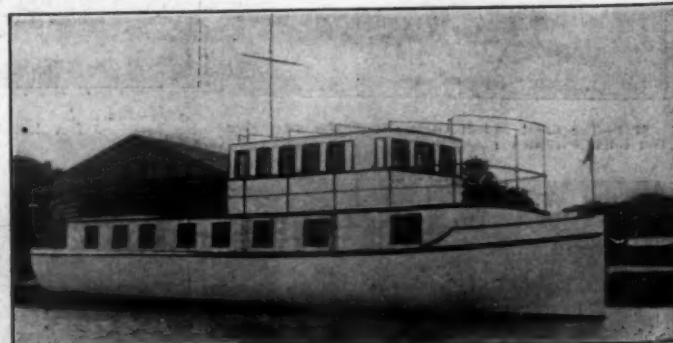
No. 1805—Available for Winter Charter—Modern twin screw, 125 ft. houseboat. 8 Large staterooms, 3 bathrooms, and 3 saloons.



No. 1860—Sale—Charter—Desirable Houseboat, 70 ft. x 18 ft. 6 in. x 18 in. draft. 2 35 H.P. Sterling motors new 1915. 3 double staterooms, saloon, deckhouse and bathroom.



No. 1847—Sale—Charter—Shallow draft houseboat, 85 ft. x 18 ft. x 28 in. 4 staterooms, large main saloon and bathroom.



No. 1912—Charter—Modern Houseboat, 64 ft. x 17 ft. 6 in. x 3 ft. 2 in. draft. 3 staterooms, main saloon, sitting room on deck, bathroom, etc. Standard motor.

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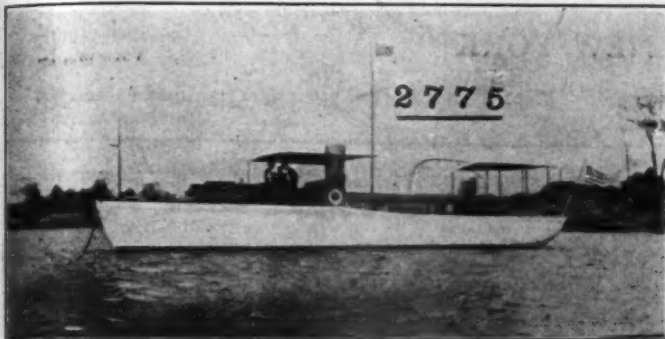
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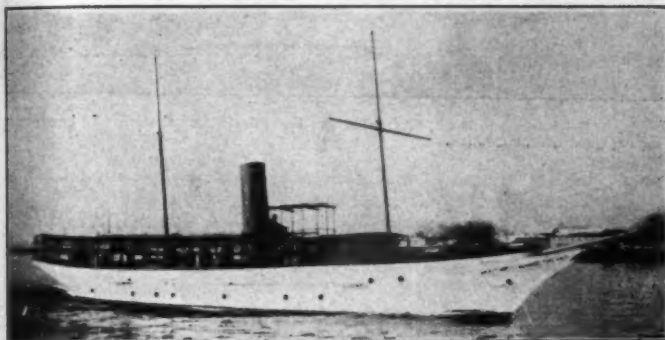
We can offer any yacht available for purchase or charter



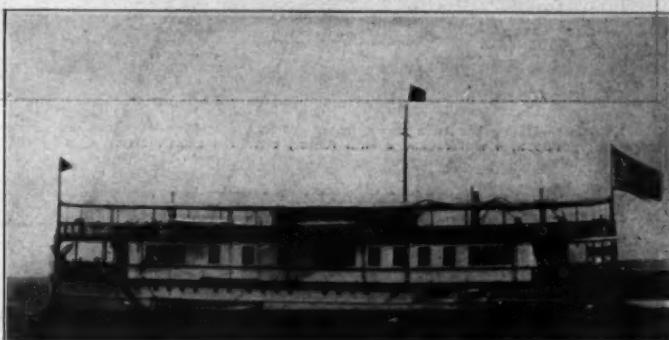
No. 2775—For Sale or Charter. High Class 60-ft. bridge deck cruiser. Finely finished and appointed. Large saloon, double stateroom, bath room, electric lights. 50-60 horsepower motor. Bridge control. Speed 11-12 miles. First class throughout.



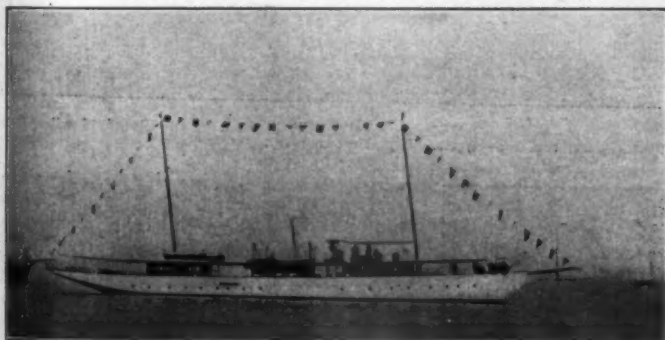
No. 5491—For Sale—Exceptionally fine cruising Motor yacht, 65 x 13 x 3.6 ft. draught. Twentieth Century motor; 2 staterooms, bathroom; large deck house. Fine seaboat. A-1 condition.



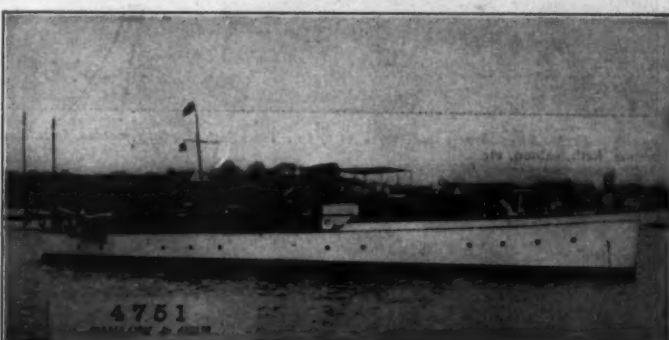
No. 5065—Sale or Charter—106-foot flush deck cruising motor yacht, 4 staterooms, large deck dining room, bath room, electric lights, etc.



No. 1816—For Sale or Charter—Twin screw motor house boat. Six double and two single staterooms; 3 bath rooms. Unusually well adapted for Northern and Southern waters.



No. 1750—Bargain—Twin screw, steel steam yacht, 155 ft. x 18 ft. x 8 ft. Speed 12 to 17 miles. Three double and two single staterooms, 2 baths. Has always been well kept up.



No. 4751—For Sale—82-ft. Cruising Motor Yacht. Three staterooms. Speed 14 miles. 6-cylinder, 100 H.P., Twentieth Century motor. Electric lights.



No. 2646—For Sale—Auxiliary Sloop, 43 ft. 6 in. x 30 ft. x 10 ft. 3 in. x 6 ft. 3 inches draft. One of the popular New York Yacht Club Thirty-Foot One Design Class. Motor installed 1915. New Ratsey sails 1914. Complete cruising equipment. Everything in connection with the yacht and outfit in excellent condition.



No. 434—For Sale or Charter—Auxiliary steam schooner 162 feet x 120 feet x 28 feet x 16 feet draft. Unusually fine seaboat. Excellent accommodations. Has every convenience for offshore cruising.

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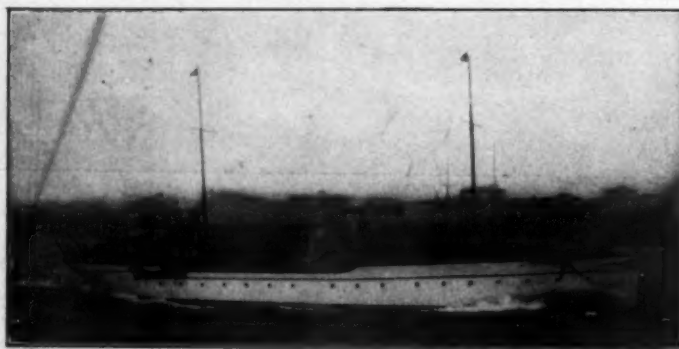
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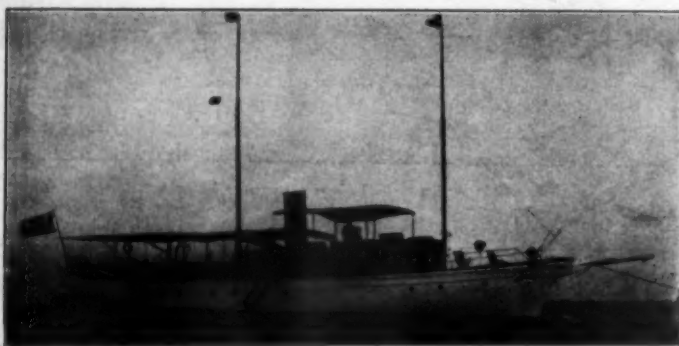
Plans, Photos and full particulars furnished on request



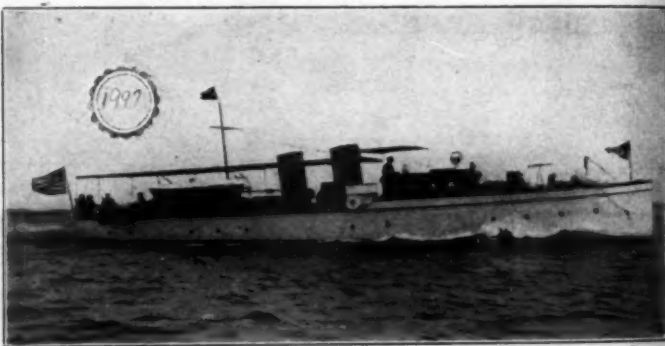
No. 1704—High-grade twin screw power Yacht, 98 x 16 x 4. Standard motors, large dining saloon, 4 staterooms, 2 bath rooms, etc. Price attractive.



No. 64-H—Power houseboat, 62 ft. x 17 ft. Light draft, tunnel stern. 50 horsepower motor; good accommodation.



No. 1325—Attractive cruiser, 90 x 14.6, two Twentieth Century motors, four staterooms, bath, saloon, etc.



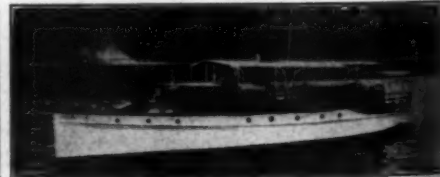
No. 1856—For Sale—Modern power cruiser, 81 ft. x 12 ft. Speed 15 miles, three staterooms, two saloons, etc. Immediate delivery.



No. 2136—Modern cruiser, recent build, 65 in. x 14 ft. Six-cylinder motor; attractive interior layout.



No. 1367—Power cruiser, 60 x 11.6; Speedway motor. Speed 12 miles.



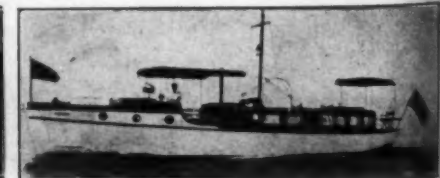
No. 1866—Twin screw power yacht, 71 x 12.4; best construction and equipment; two 20th Century motors.



No. 2072—Winter Charter—Florida—Light draft cruiser, 60 x 12.6 x 3.6, excellent quarters.



No. 2059—Comfortable cruiser, 51 x 10.2, built 1913; Speedway motor.



No. 2223—Bridge deck cruiser, 51 ft. x 11.5; Standard motor, one-man control.



No. 1424—Bridge deck cruiser, Lawley built; 52 x 8.6; six-cylinder motor, speed 14 miles. Engine controls on deck.



No. 1779—Raised deck cruiser, 56 ft. x 13.2 ft. x 3 ft. 20th Century motor. Bottom coppered for Southern use. Price reasonable.



No. 1256—Attractive Trunk Cabin cruiser, 45 x 9.6. Standard motor; first-class condition.

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No. 1525—43-foot cruiser. Four berths in cabin. Sleeps five. 24-30 H.P. 20th Century. Speed 10 miles. Bargain.



No. 3767—Steamer. Houseboat type. Nine staterooms, two baths, dining saloon, social hall, music room, etc. Exceptionally roomy.



No. 3931—Sale or Charter—110-ft. steam yacht. Four staterooms, saloon, bath, etc. Speed up to 15 miles.



No. 1422—100-foot twin screw power yacht. Six staterooms, three baths, etc. Speed 12 miles.



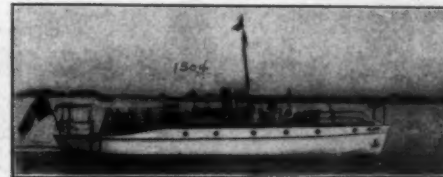
No. 827—75-foot power yacht. Three staterooms, saloon, etc. Speed 10 miles. Price attractive.



No. 1627—42-foot cruiser. Sleeps four. 20 H.P. Ralaco motor. Speed 10 miles.



No. 2567—Sale or charter. 160-foot steam yacht. Five staterooms, dining saloon, music room, two baths, etc. Speed up to 17 knots. Bargain.



No. 1504—70-foot power cruiser. Four staterooms. Two extension berths in saloon. Bath, etc. Speed 13 miles.



No. 1595—Sale or charter. 65-foot power cruiser. Practically new. Two staterooms. Saloon with two berths, bath room, etc. Speed 13 miles.



No. 1774—35-foot cruiser. Practically new. Two extension berths in cabin. Electric light, etc. Speed 12 miles.



No. 3289—130-foot twin screw express steam yacht. Speed up to 30 miles.



No. 1649—45-foot cruiser. Double stateroom, saloon with two berths, electric light, etc. Speed 12 miles.



No. 1688—45-foot cruiser. Double stateroom, and two extension berths in saloon. Electric lights, etc. Speed 10 miles.



No. 1286—50-foot fast mahogany day cruiser. Speed 20 miles. Cabin fitted with transoms. Bargain.



No. 4106—115-foot auxiliary steel schooner. Four staterooms, saloon, bath, etc. 100 H.P. Standard speed 9 miles.



No. 1345—55-foot cruiser. Double stateroom, saloon, bath, etc. Speed 12 miles.



No. 1784—62-foot cruiser. Houseboat type. Two double staterooms, three extension berths in main saloon and one in deckhouse. Bathroom, etc.



No. 2376—Sale or Charter—175-foot steam yacht. Nine staterooms, large saloon, dining saloon, social hall, baths, etc. Perfect condition.

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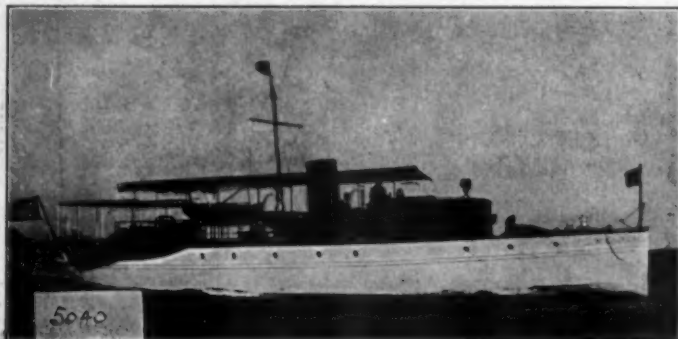
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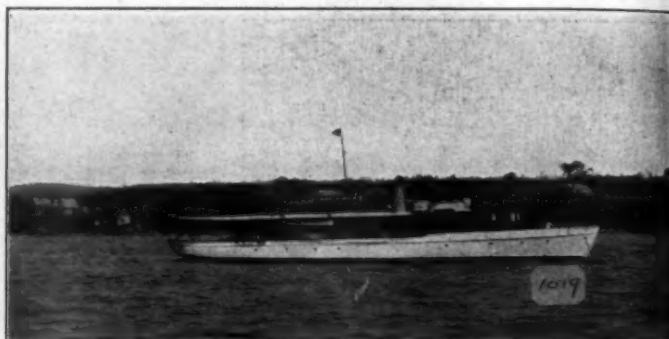
42 BROADWAY

NEW YORK

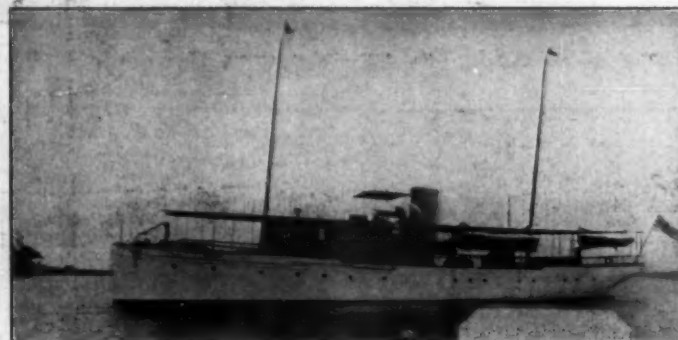
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the best Yachts and Motor Boats that are available.



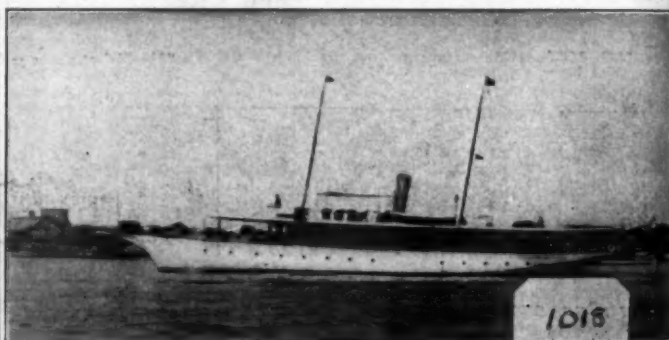
No. 5054—For Sale—High-class 71-foot twin screw cruising motor yacht. Excellent accommodations. Completely and handsomely furnished. Speed 13 miles.



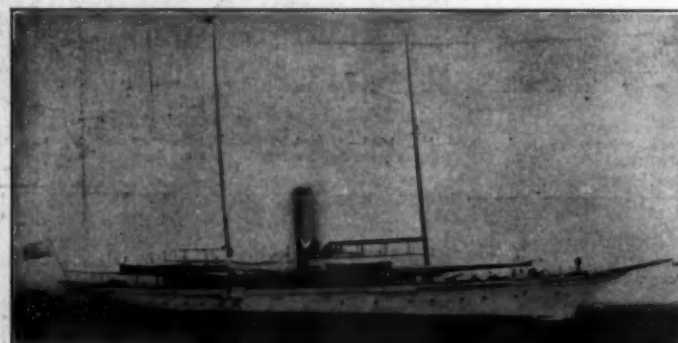
No. 1019—For Sale—115-foot flush deck steam yacht. Lawley construction, double planked. Sleeps nine in owner's party. Cruising speed 12 knots. Maximum 15. Economical to operate. Fully found. First class condition throughout.



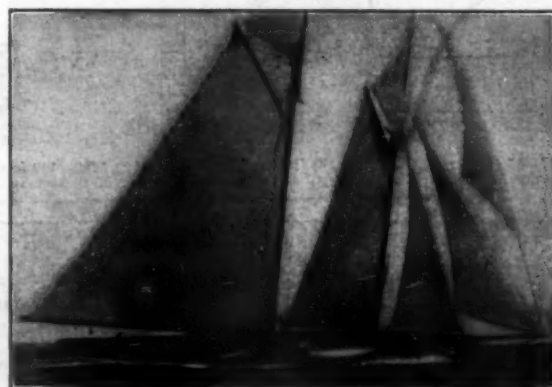
No. 5050—For Sale—Seagoing motor yacht, 95 ft. x 18 ft. beam. Exceptional accommodations. Strongly constructed. Condition A-1 throughout.



No. 1018—For Sale to close an Estate—Roomiest and most economical 112 ft. cruising steam yacht afloat. High class throughout. Low price.



No. 1101—For Sale—165-foot seagoing steam yacht. Sleep 11 in owner's party. Condition A-1 throughout.



No. 4001—For Sale to close Estate—Practically new 107 ft overall auxiliary schooner. Modified Fisherman type. Exceptional accommodations. Fully found.



No. 3006—For Sale—Modern houseboat, 60 ft x 17 ft. 2 in. x 3 ft. draught. Sterling engine. 3 staterooms. Large saloon. Finely finished and furnished. One-man control. Best boat of size available.



No. 5032—For Sale—Particularly fine cruising motor yacht. 65 ft. x 13 ft. x 3 ft. 6 in. draught. Recent construction. Unusually fine accommodations. One-man control.



No. 1020—For Sale—Attractive price—High-class 160-foot fast cruising steel steam yacht. Excellent accommodations. Perfect condition throughout.

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Cable Address "Windward," N. Y.

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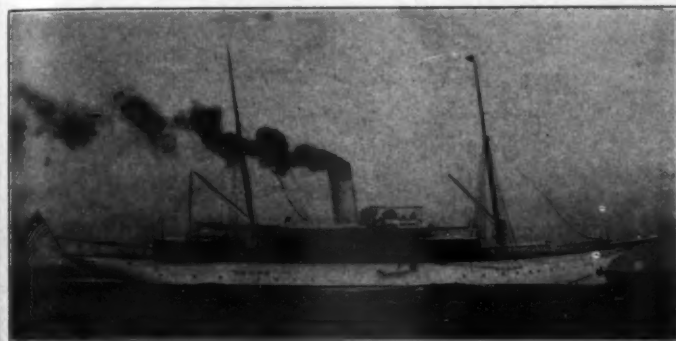
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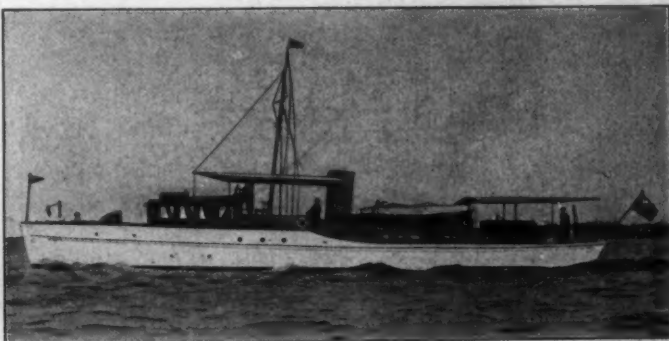
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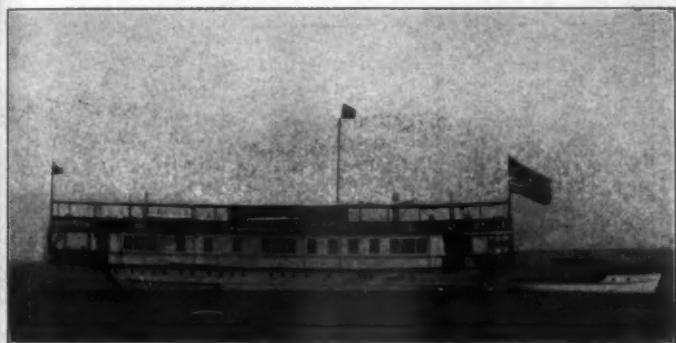
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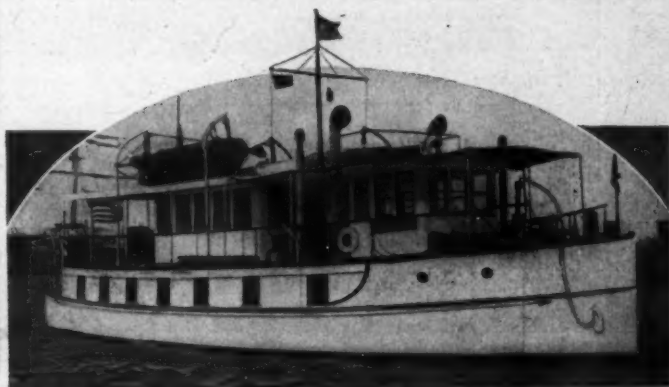
No. 3904—Sale or Charter—200 ft. sea-going steamer; American registry; splendid condition.



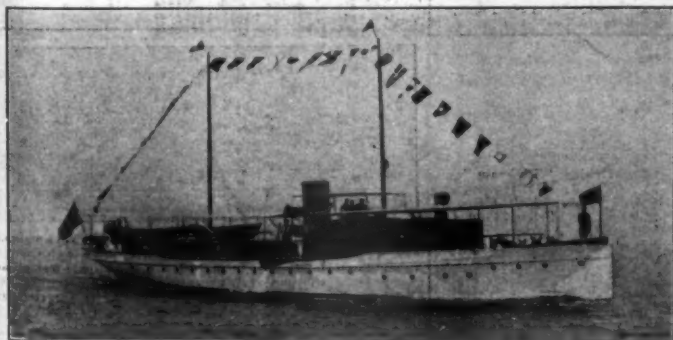
No. 6890—85 ft. power yacht; Diesel engine; reasonable price.



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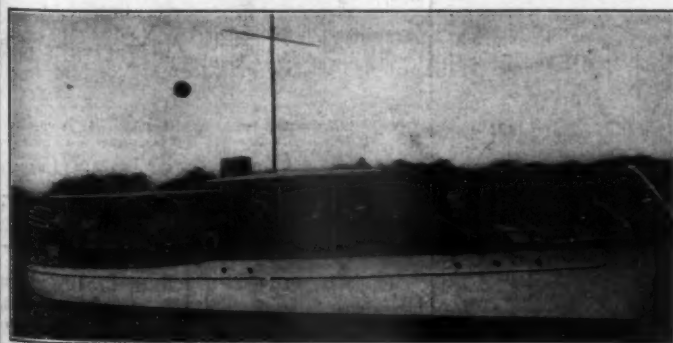
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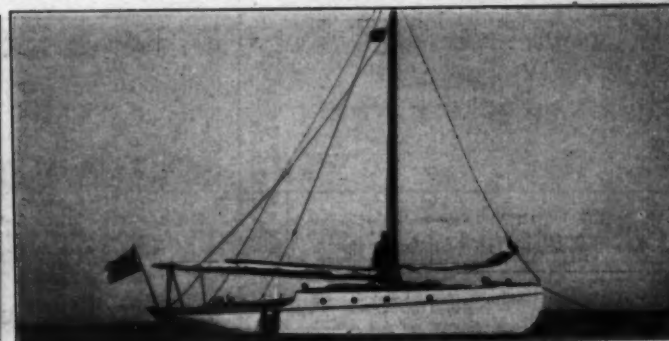
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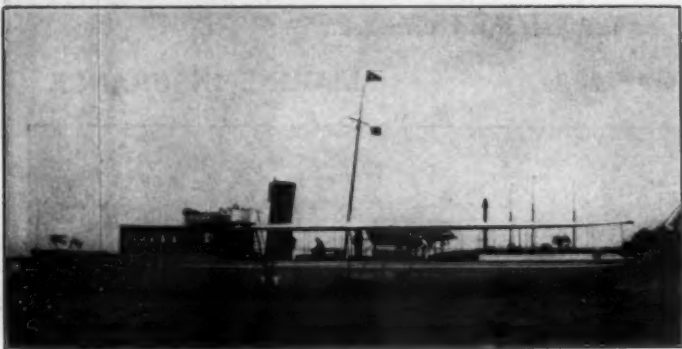
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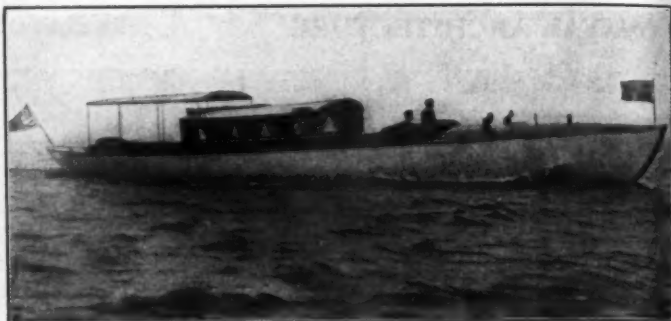
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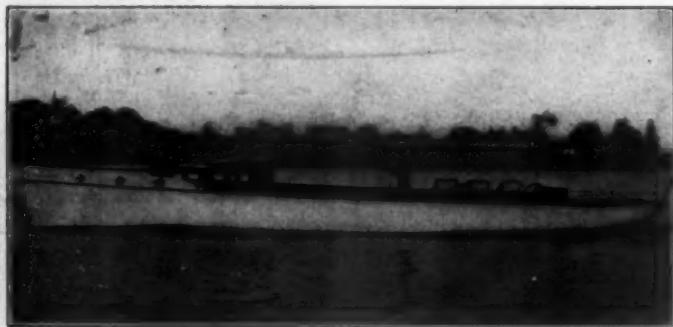
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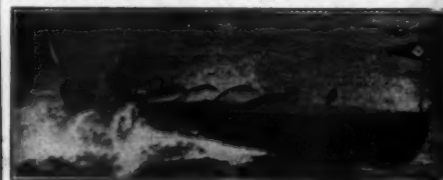
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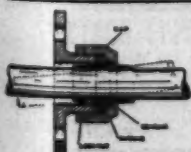
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Serving Uncle Sam

(Continued from page 8)

in early September to the maneuvers, is to expect too much. It is to be hoped that the maneuvers will prove successful and will bring out a large number of men and boats. But it can be safely stated that had definite plans been announced in May, there would be from two to four times as many men and boats available as will report on September 5.

More men and boats could be secured for this year, even at this late date, if some provisions could be made so that the men used within their own districts could return to their occupations for brief periods during the week. Leave of absence for that purpose could well be accorded for forenoons, and would enable the men to attend to the business matters most pressing. Presumably forenoons would be largely devoted to cleaning boats and engines, securing supplies, and details of that nature, while the naval problems would be worked out afternoons and at night. Therefore, leave of absence in forenoon, when necessary, would really not interfere with the maneuvers.

The United States Power Squadrons has aimed to develop navigators and competent motor boatmen, not boats. Of all the motor yachts in the United States, probably thirty per cent. would not be suitable for naval purposes at the present time. Of the balance, only about ten per cent. could be classed as fast boats. The remainder would be suitable for patrol and guard duty inshore and in bays, harbors and rivers. To build and maintain a fast boat requires a large purse. The average yachtsman does not possess a large purse for, he is remembered that for every yachtsman hitherto known to the Navy and the public there are surely twenty to thirty yachtsmen seldom heard of but who, in their modest way and within their moderate and limited means, are deriving as much pleasure (sometimes more so) from the sport as does their wealthy brother. The true solution for the required number of fast motor boats needed in offshore patrol duty would be for the Government to build and maintain such boats, to station them in the various districts and there make them available for the instruction and training of the volunteer reservists.

It seems peculiar that the Navy should not undertake to supply free the necessary food, oil, gasoline, books, flags, shapes and special equipment required by the motor boats attending the naval maneuvers. The boat owner offers a boat built and equipped at his own expense, and his burden should not be increased by having to pay for the privilege of serving his country. This is a matter that will surely require attention another year.

[Note: In fairness to the Navy, it should be stated that the foregoing article was written before certain later information was received by the writer. This later information indicates a desire of the Navy to approach the problem from the point of view of the motor boatman and, if continued, is likely to prove a success. Speaking of the First Naval District, the officers there have shown every wish to use their best endeavors to suit the convenience of motor boat owners under the peculiar conditions existing this year, and the writer believes the maneuvers in that district will prove to be a model on which to mould the plans for another year. Nothing in this article is intended to be construed as a reflection upon individual officers in the United States Navy.—Author.]

Race Week on the Delaware

(Continued from page 16)

tered from the Philadelphia Canoe Club. The finish line found many other boats assembled to await the racers and join the fleet for the second leg. After all the racers finished the entire fleet formed into line behind the flag ship (Commodore Cartledge's Marguerite) and proceeded to the anchorage of the Salem Yacht Club to enjoy the hospitality of this Club.

On Sunday, most of the fleet remained at anchor, the crews availing themselves of the opportunity to become better acquainted with one another. Through the courtesy of Commodore Waddington of the Salem Club several of the yachtsmen visited Fort Delaware.

Monday morning found the fleet anxiously awaiting the starting signal for the second leg. Nine cruisers decided to race, while the others preferred to keep together. In this event all of the boats started together, racing as one class with handicaps deducted at the finish. The course was from Salem to the Corinthian Yacht Club of Cape May, a distance of 33 nautical miles, thus giving many of the fair sex their first taste of the lower Bay and Atlantic Ocean. Here again Bedouin defeated Dora II for the first place, but only by the slight margin of eight seconds of corrected time. C. Church's Alhambra of the Riverside Club was a good third. This race was for first, second and third prizes, as well as for points for special prizes covering the two legs—Salem to Ocean City.

Tuesday was the day so many anxiously awaited, as this was the occasion of the race for the Coxie Hall trophy under the auspices of the Corinthian Club, and the Delaware River tars were determined to take this beautiful trophy home with them. The course was 5½ miles—Cape May—Overfalls L. V.—Five Fathom L. V.—Cape May, and the starting gun found five D. R. Y. R. A. boats competing against the South Jersey boats; all the boats starting together with handicaps deducted at the finish. Dora II won this much coveted trophy on time allowance. Bedouin secured second prize and Alhambra third, while Marguerite II made the fastest elapsed time over the course; thus giving the Delaware River boats a clean sweep.

Wednesday was visiting day ashore, many taking the opportunity to visit the Holly Beach Yacht Club.

On Thursday the fleet sailed from Cape May to complete the last lap of the cruise-race to Ocean City Yacht Club, all of the racers being started on their handicaps in this 30-mile run. Bedouin won first prize, and the point cup. Alhambra second prize, Dora II third, which tied Alhambra, and Dora II for second prize on points.

For Friday, the Ocean City Yacht Club arranged a match race against the South Jersey boats and donated four handsome trophies for this event, the boats divided into two classes, A and B (Class A—rating 45 and over; Class B—rating under 45). For the first time this brought the crack racers of the South Jersey and D. R. Y. R. A. sections together. Marguerite II finished first and Helma second (both D. R. Y. R. A. boats) in Class A, and Bedouin first and Dora second, with Alhambra a close third (Dora and Alhambra also

(Continued on page 50)

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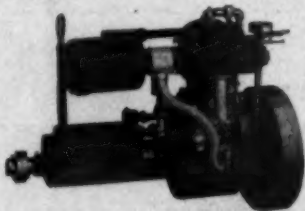
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(Continued from page 49)
racing their tie off for points) in Class B. Here again we were fortunate enough to make a clean sweep.
On Saturday, August 5, the fleet disbanded, some of the more fortunate continuing for another week on up the coast, while the rest turned the bows of their boats to the sea—homeward bound.

Practical Wireless for Motor Boats

(Continued from page 11)
who listens even to the shortest wireless message. It is a simple matter, however, to learn the Continental code that is now used in the transmission of wireless messages. With the character of the code once memorized, a few hours each day devoted to listening to wireless traffic will soon develop one into a proficient operator. It is for that reason that a receiving set is recommended as a starter, after which, with the code mastered, the boat owner can install a complete set.

With an inexpensive receiving set the smallest craft should be able to receive messages from commercial stations over a distance of 100 miles and more. Imagine the delight of receiving the news of the day while lying at anchor in some little cove perhaps 100 miles from the nearest center of civilization. There are several stations in the United States that send out press despatches, storm warnings and weather reports regularly, and whose messages can be intercepted on board a small cruiser equipped with a modest wireless set, the enjoyment derived by the owner and his party is not difficult to imagine. Later, of course, when the sending set is added, the pleasure is many times increased. The owner or a member of his party can then communicate with other boats, as equipped and exchange gossip with them. If the set be sufficiently powerful, say with a range of twenty-five miles, he can communicate with commercial and amateur stations on shore when cruising a short distance off shore. He can even make arrangements to have messages delivered by land telegraph to some distant point after he has gotten in touch with a wireless station. Is it possible to over-estimate the convenience of a Postal Telegraph or Western Union station on board your motor boat?

In the event of emergency, the wireless apparatus, more so if it includes a transmitting set, is of immeasurable value if the boat happens within communicating range of shore stations of any kind or other wireless-equipped vessels. The operator on board a small boat in distress can send out the international distress signal and rest assured that if his signal is heard no effort will be spared to bring immediate succor to him. He has but to send out the signal, state his trouble and his position, repeating the call over and over again, if need be, until he is heard. With a receiving set only, of course, it is not possible to call for aid, although the outfit may be of some assistance by way of learning what ships are in the vicinity. A wireless equipment, much the same as an insurance policy, only discloses its paramount value when danger threatens.

Many boat owners may have hesitated installing a wireless set on board their craft through a grievous misunderstanding of the scope of the laws, which were signed at the time of President Taft's incumbency, taking effect December 13, 1912, and which, let it be said here, are fair and clear.

Prior to the laws now existing, there were no Federal regulations of any kind regarding wireless communication by American amateurs. As might naturally be expected, some of the youngsters overstepped the bounds. At the time of the Titanic disaster, for instance, the commercial and Government stations experienced great difficulties in communicating with the rescue ships at sea, owing to the continual and meaningless chatter of nearby amateurs. On more than one occasion, too, amateurs are known to have sent out false messages which caused much expense and trouble to the Government and commercial stations.

To prevent the messages and experiments of amateurs from interfering with Government and legitimate commercial wireless traffic, the present Federal laws were propounded. By limiting the wavelength of the signal emitted (the wavelength is the term of measurement used in speaking of the waves sent out by wireless transmitters) the amateur wireless operators now have a zone of their own in which they do not interfere, and are not interfered with, by either com-

(Continued on page 52)

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"Lassie." Wm. McQueen, Owner



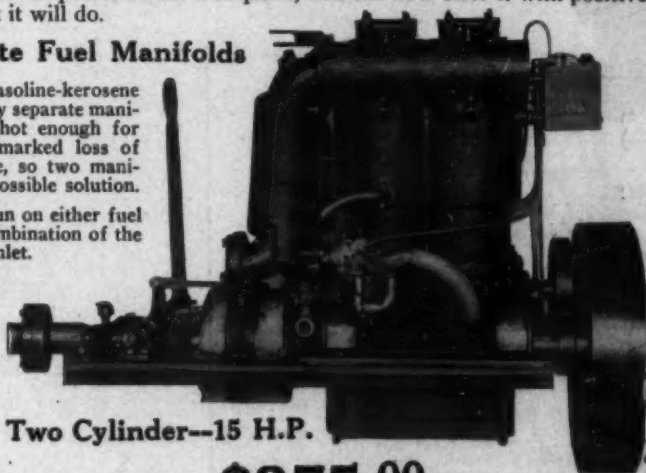
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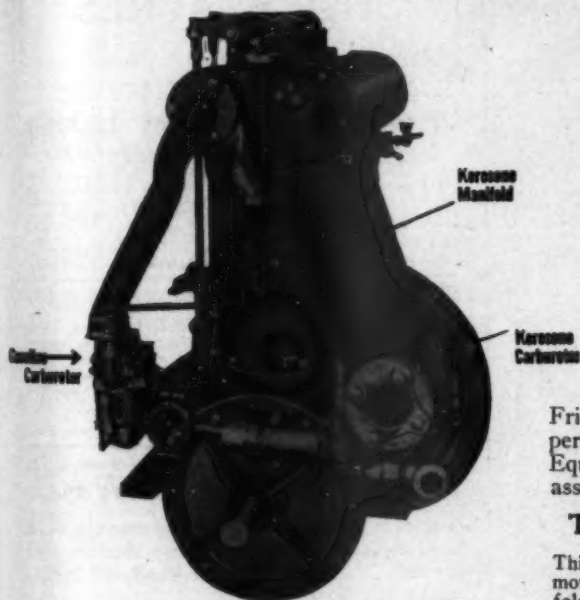
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Taunton, Mass.
New 1916 Model Marine Engines

(Continued from page 50)
mercial or Government stations. Likewise the laws cover other phases of operation, so as to make for non-interference and orderly use of the air for wireless signaling.
It is largely due to the fear of the wireless laws that many persons do not investigate amateur wireless telegraphy. But when once the present laws are explained, all apprehension is bound to disappear. The laws recognize the experimenter, grant him his rights, and under them licenses are issued to him.
[Editor's Note: A resume of the Government's regulations affecting wireless for small boats will be included in the October issue.]

A Machine Which Knows How to Breathe

(Continued from page 30)
auscultation, and the victim may never know that earnest though misguided attempts were made to save him.
The introduction of the new emergency type Pulmotor has made the revival of a half-drowned person as systematic and effectual as the plugging of a stuffing-box leak with a bit of candle wicking. The matter of saving lives around the home of a boating organization or aboard a motor yacht has therefore practically resolved itself into the question of whether human life is worth saving. Is life worth a little expense, a little forethought, a little preparation—or isn't it?
The construction of this new Pulmotor is so simple and its operation so natural that, aside from its value as a life-saver, it should be of interest to everyone who is at all concerned in mechanical things. It consists of but two major parts, one of which is an air pump no more formidable than a tire pump. The other is a pressure control valve fitted with a mask which straps over the patient's head. Two men are required to operate the apparatus, and the man at the pump has nothing to do with the amount of air supplied, this being effected automatically by the Pulmotor, under the direction of the man at the pressure control valve. This individual regulates the inhalation and exhalation of the patient according to his needs by turning a small lever back and forth, but the volume of air admitted is cared for and the proper rate of respiration indicated automatically by the machine.
With the lever at the extreme right, air from the pump passes through the control valve to the patient's lungs. Their resistance, as they fill to their normal expansion, is registered in the inhalation gauge with which the valve is fitted. Watching this gauge, the operator knows when to swing the lever over to the left for exhalation. The swing of the lever closes the direct air channel to the patient's lungs, and the air from the pump escapes through a bypass, sucking with it the air in the patient's lungs, and assisting them in their natural collapse. An exhalation gauge checks their deflation and at the proper moment the operator can know when to move the lever for the next inhalation.
The gauges are almost instantly adjustable for any lung capacity, and there is no danger of supplying too much or too little air to the patient. They also indicate automatically when the patient is capable of resuming normal breathing.

Picking Locks on the Empire Canals

(Continued from page 13)
by the waste water of the rivers or by gasoline engine-driven dynamos.
The five Waterford locks lift into the canalized Mohawk River. Most of the new canal is through these canalized rivers and lakes, and when complete the channel will be well marked by buoys. The marking is good at present, except for the fact that the buoys are changed from time to time and have not yet been assigned permanent positions, and because the lanterns in them are of different characters for experimental purposes, and many of them do not remain lighted.
May an amateur sailor suggest to the canal engineers that these red and black buoys should be of different shapes? Now they are exactly alike and when one is sailing toward the sun it is impossible to distinguish their colors. They are very generously supplied and well placed, and the white lights in some of them are flashing and the red lights are fixed, so that at night it is easier to distinguish them than it is in the sunlight.
The old canal men do not like the new canal, as they are afraid to use it at night because of the uncertainty of the lights, and because of strong currents above and below some of the locks. Below Lock 8 at Scotia there is a bad current, and entrance to this lock from below should be made with caution.
Another thing that the cruiser will find out is that at the bridges the channel is marked by red rectangular targets with white borders, painted on the bridge piers between which the channel lies. These are supplied with red lights at night and in some places additional red lights are suspended from the bridges to points a foot or so above the water level. The bridge clearance in the old canal is twelve feet, but will be sixteen in the new canal. It is sixteen everywhere in the new canal except at one bridge a few miles east of Schenectady. Good anchorage may be found nearly anywhere along this line, or one may tie up for the day or night at any of the locks.
The lock at Little Falls, No. 17, with its rise of forty feet six inches, is said to be the highest lift lock in the world. A mile or two beyond it lock 18 lifts one into a level of the old Erie Canal which must be followed from here on to Syracuse. If one from the Eastern waters is time only, for a trip through the Mohawk River he will be richly repaid. The beauties of this section have been praised by our poets for generations. Now one who is fortunate enough to own a motor boat can come into personal touch with this wonderful section.
The section of the new canal which is in commission, from Waterford to Lock 18 at Rexford, is seventy-eight miles long, of which distance sixty-five miles is through canalized river, and the lift accomplished by the eighteen new locks formerly required forty locks.
Lock 41 is the first in this old canal. Two or three more of these old style locks lift the boats to a level which extends to Utica where another rise of only about two feet brings one to a sixty-mile level which extends to Syracuse.
In the city of Syracuse the locks lower to that

(Continued on page 54)

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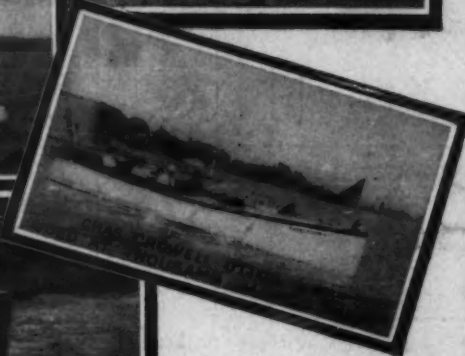
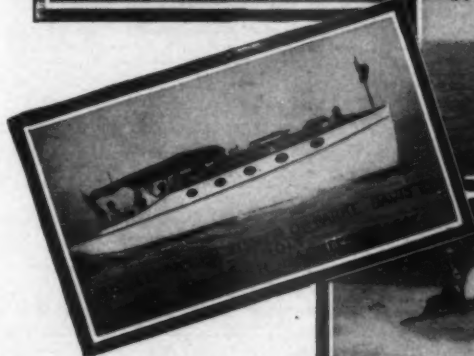
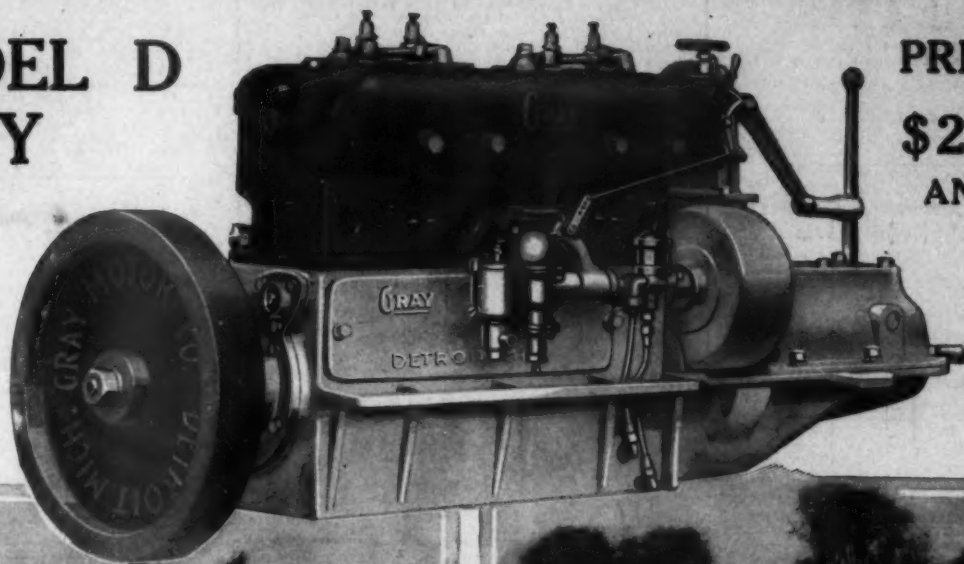
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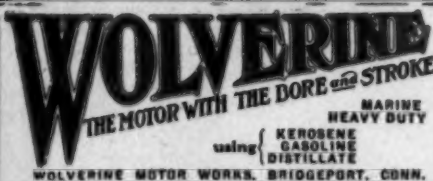
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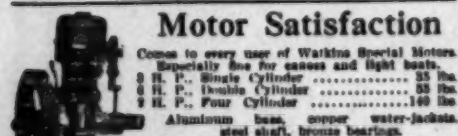
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(Continued from page 52)

part of the old canal which extends on to Buffalo and Lake Erie and has branches extending into Cayuga and Seneca Lakes. The old Oswego Canal begins here with a series of the decrepit lowering locks which are attended by men who seem to be almost as old as the locks themselves. A four-mile level alongside Onondaga Lake brings us to the lock with the poetic title "Mad Lock" which drops to the level of another section of the new Barge Canal. This section runs to Three River Point, where the Seneca and Oneida Rivers join to make the Oswego River. From here one can run eastward into beautiful Oneida Lake, westward into a section of the old Erie Canal some miles beyond Syracuse and northward through the new Oswego Canal, which is in commission, although not quite completed. The only maps available of these canals are those issued by Superintendent of Public Works in connection with his reports, but if one is going into Oneida Lake, he should get chart No. 4, prepared by the U. S. Army Engineers.

Here one will be unable to run after ten o'clock at night, for the locks are only in commission from 6 A. M. till 10 P. M. Another thing that will be missed is the telephone system of the Erie Barge Canal. No lock will be ready and as the locks are all at waterfalls, no amount of whistling will attract the attention of the attendants if they happen to be indoors.

There is an enormous amount of water passing through this Oswego River and the currents are strong. The first lock is at Phoenix, about ten miles below Mud Lock, and below this lock the channel is blocked up with a rock pile which is being removed. The two Fulton Locks are about ten miles further along and then there is a big one at Minetto where there is a high dam and a 12,000 h.p. power-house. This combination makes bad currents both above and below the lock. Then at Oswego are three more locks which lower one into Lake Ontario. The U. S. Weather Bureau is in the Post Office Building, and if one is anxious to know what the weather probabilities are before starting across the lake, he may go there.

It is about forty miles across the lake to the St. Lawrence River at the entrance of which, and for the first fifty miles to Brockville is that motor boatist's paradise, the Thousand Islands. McTear Boatist has recently described the advantages of this section.

One who is to make the round trip proceeds down the St. Lawrence River past Ogdensburg, St. Regis, and Montreal, to Sorel or the mouth of the Richelieu River. There are ship canals around each of the rapids. An eighty-one-mile run through the Richelieu River, a part of which has been canalized by the Canadian Government, brings one to the northerly end of Lake Champlain.

Whitehall, at the southerly end of the lake, is the entrance to the new Champlain Canal. From Whitehall to Fort Ann, a distance of twelve miles, Wood Creek has been canalized. Then at Fort Edward, is a land-cut following a natural depression. The rest of the way back to Waterford the Champlain Canal is through the Hudson River with the exception of a short land-cut near Schuylerville. The land-cuts can, of course, be followed without any difficulty, and the channel in the river is well marked with buoys.

One thing that the cruiser should bear in mind is that the barge canal is so new that there is no development along its banks; consequently, there are no gasoline supply stations on it, even in the cities. Along the banks of the old canal, supply stations are plentiful. Good anchorages are also found readily in the old canal, especially between Chittenango and Syracuse where it runs through a chain of small lakes.

This round trip cruise for its length of about a thousand miles from and to New York City, affords endless variety and is altogether the most interesting one imaginable.

Shall I Fly the Colors of My Country?

(Continued from page 15)

come a law, no vessel of any kind, whether used for pleasure or commerce, could fly any flag at or at the peak, but the American national ensign; so that any yachtman who is interested in flying his yacht ensign from its accustomed position where it has flown for the past sixty-eight years, would do well to urge his Congressman to oppose the passage of this Bill.

Meanwhile, in order to ascertain definitely whether there has ever been any regulation of the Government requiring the yacht ensign to be displayed from any particular part of a yacht, the writer took the matter up with the Treasury Department, and under date of June 1, 1916, received the following from Hon. B. R. Newton, Assistant Secretary of the Treasury:

"Referring to the last paragraph of your letter, this Department knows of no order requiring the yacht signal thus approved by the Secretary of the Navy to be flown from any particular part of a licensed yacht.

The tradition of the sea reserves the flagstaff at or the peak, at the American national ensign; so that any yachtman who is interested in flying his yacht ensign from its accustomed position where it has flown for the past sixty-eight years, would do well to urge his Congressman to oppose the passage of this Bill. Meanwhile, in order to ascertain definitely whether there has ever been any regulation of the Government requiring the yacht ensign to be displayed from any particular part of a yacht, the writer took the matter up with the Treasury Department, and under date of June 1, 1916, received the following from Hon. B. R. Newton, Assistant Secretary of the Treasury:

"(Signed) Respectfully, B. R. NEWTON, Assistant Secretary."

The last part of this letter also clearly expresses views similar to those evidently held by whoever was instrumental in having the above bill introduced into the Congress; and it also would indicate that the writer of it was not a yachtman or familiar with the long established custom of displaying the yacht ensign as an ensign.

It will thus be seen that as the law stands at present, only licensed yachts are required to display the signal known as the yacht ensign, and it may be flown from any part of the yacht. Yachts not required to be licensed may or may not display the yacht ensign, as their owners see fit. Accordingly, members of the United States Power Squadrons, or of any other organization, no matter what the size of their yachts, may lawfully fly the flag ensign of such organization at the flagstaff at or at the peak, if the yacht is of such size that it is required to be licensed, it must display the yacht ensign from some other position.

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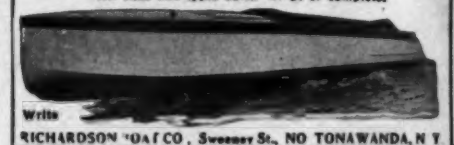


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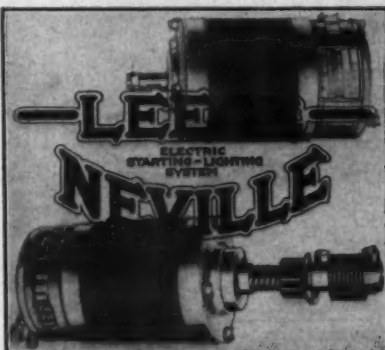
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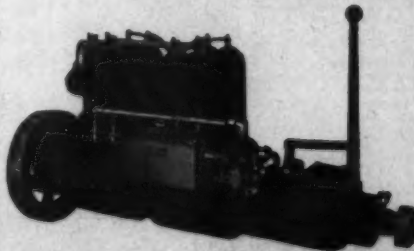
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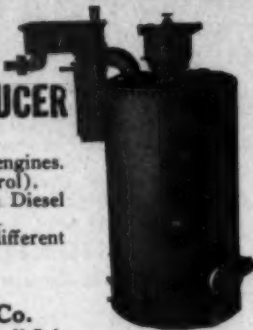
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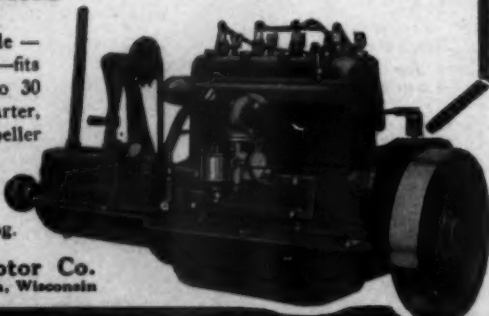
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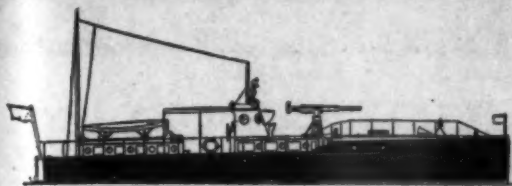
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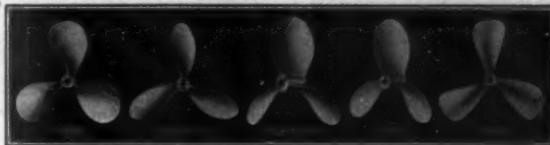
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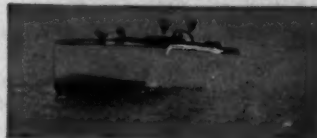
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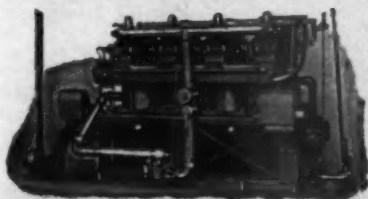
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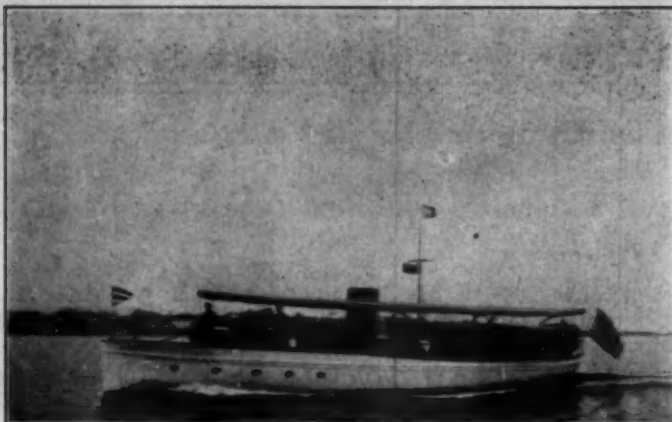
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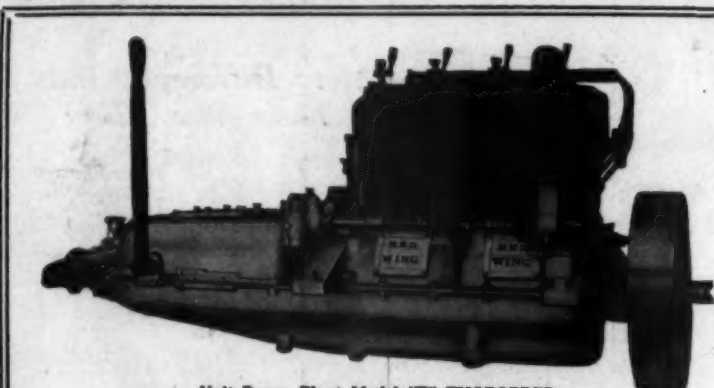
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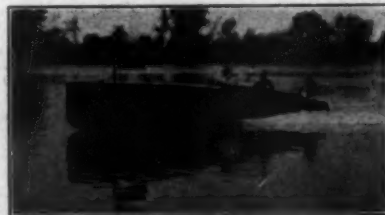
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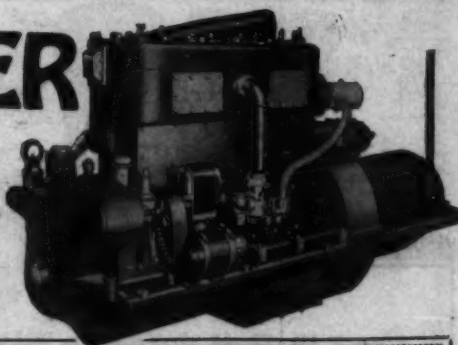
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After many years of experience we have found that about 95 out of every 100 boats have the wrong wheel. It may be old and bent or twisted, or it may be a perfectly good wheel that is the wrong size and pitch for the boat. There is no way the owner can discover this unless he tries a new wheel and compares results.

B & B Propellers are technically correct, made of the finest materials by a firm of international standing. They are manufactured in a complete variety for all sizes and types of boats. Name is stamped on the hub of every genuine B & B Propeller.

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36-ft. Express Cruisers for Southern Use

Accommodations that would do a 50-footer proud and a quality of finish that couldn't be duplicated outside of a piano factory are two characteristics of these Albany Cruisers, which are particularly notable. Designed by John L. Hacker.

The Albany idea is to make every boat we turn out just a little better in design, workmanship and finish than anyone else believes possible. And in the attainment of this aim we are aided by a designer, a plant and a corps of skilled artisans which could not be better suited to the purpose.

Our service station at Miami, maintained throughout the winter season, is an important element in Albany Service to purchasers of our Southern Cruisers.

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and cruisers are used by U. S. Government in Life-Saving and Lighthouse service, by foreign governments, by institutions and individuals everywhere. *Racine* is a name backed by twenty-one years of boat building skill. It means speed, power, comfort, safety and dependability in boats.

Write for catalog of speed and semi-speed family launches, motor boats, cruisers, rowboats and America's finest canoe—the Racine^{wis}. Please mention your preference when writing.

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THE NORMA COMPANY OF AMERICA

1790 BROADWAY

NEW YORK

Ball, Roller, Thrust, Combination Bearings

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Any good reverse gear means greater safety for your boat than no reverse at all, but Joe's Gear means the *highest degree of safety* for it is the surest, most dependable gear made.

Joe's Gears are made for all sizes and types of boats—strong, light weight gears for small boats and big, tremendously strong gears for heavy auxiliaries, cruisers and commercial boats. *High reverse ratio.*

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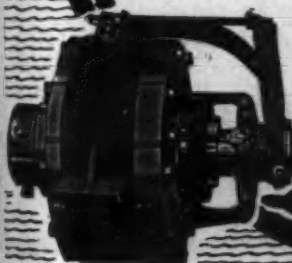
Low Price One-Way Clutches for fishermen, etc.

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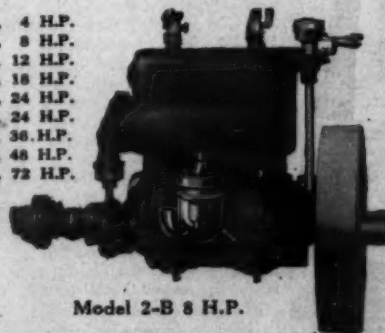
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901 Roberts Bldg.

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Model 2-B 8 H.P.

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TURBINE TYPE
PROPELLERS

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Dia.	Not Bored	Bored and Keyseated	Dia.	Not Bored	Bored and Keyseated
8"	\$1.80	\$2.40	8"	\$2.20	\$2.80
9	2.20	2.80	9	2.60	3.20
10	2.40	3.00	10	2.80	3.40
11	2.60	3.20	11	3.00	3.60
12	2.80	3.40	12	3.20	3.80
13	3.00	3.60	13	3.40	4.00
14	3.20	3.80	14	3.60	4.20
15	3.40	4.00	15	3.80	4.40
16	3.60	4.20	16	4.00	4.60
17	3.80	4.40	17	4.20	4.80
18	4.00	4.60	18	4.40	5.00
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26	5.60	6.20	26	6.00	6.60
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29	6.20	6.80	29	6.60	7.20
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31	6.60	7.20	31	7.00	7.60
32	6.80	7.40	32	7.20	7.80
33	7.00	7.60	33	7.40	8.00
34	7.20	7.80	34	7.60	8.20
35	7.40	8.00	35	7.80	8.40
36	7.60	8.20	36	8.00	8.60
37	7.80	8.40	37	8.20	8.80
38	8.00	8.60	38	8.40	9.00
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Prices on application.

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and a spark plug wrench... **Free**
With four spark plugs that
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Advertising Index will be found on page 38.

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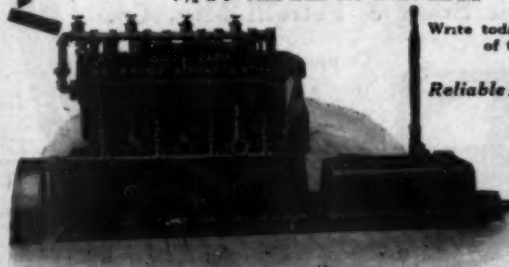
because
it uses cheap kerosene with very satisfactory results
it saves \$5.00 to \$7.00 a day on fuel—
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kerosene is gasified—not merely vaporized.

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The kerosene equipment we use on Wright Heavy Duty Motors gives just as much power as gasoline, and uses the same number of gallons of fuel. By thoroughly gasifying the kerosene before it enters the cylinders we secure clean combustion, full power, and freedom from carbon and lubricating troubles. Wright engines have overhead valves, and are equipped with magnetic make and break ignition, using a Bosch Low Tension Magneto. The spark is advanced or retarded through the magneto, the same as a jump spark system.

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6 x 7 1/2" runs from 400 to 550 R.P.M.
7 1/2 x 8" runs from 350 to 450 R.P.M.



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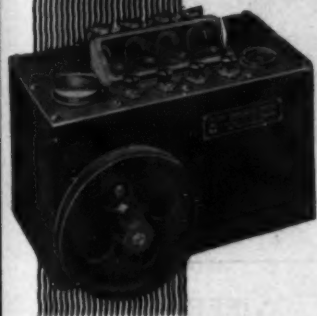
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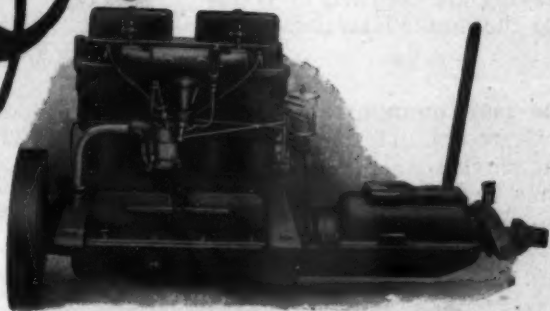
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\$460

\$550

Standard Type. Iron base and crank case, for heavy and medium duty work, speed 200 to 900 R.P.M.

High Speed Type. Aluminum base and crank case, for fast launches and hydroplanes, speed 200 to 1500 R.P.M.

Price includes Magneto, Joe's Reverse Gear and all usual motor equipment

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FOR STEEL
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GIVES INCREASED SPEED TO FAST VESSELS

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Gies Gears are made in various sizes of open and enclosed type suitable for all marine motors up to 40 H.P. at 1000 R.P.M. The prices are so low that you will be surprised how little the model you want will cost you.

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Our Gears are honestly made, with the best of materials and workmanship. They have fewer working parts than any other gear. All parts are interchangeable, so you can replace any part at slight expense and make the gear as good as new after years of service.



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COMPLETE EQUIPMENT READY FOR OPERATION, \$775.00 and up

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SHOAL DRAFT—LIGHT—VENTILATION

These, of course, are of vital importance in any boat to be used in our southern waters.

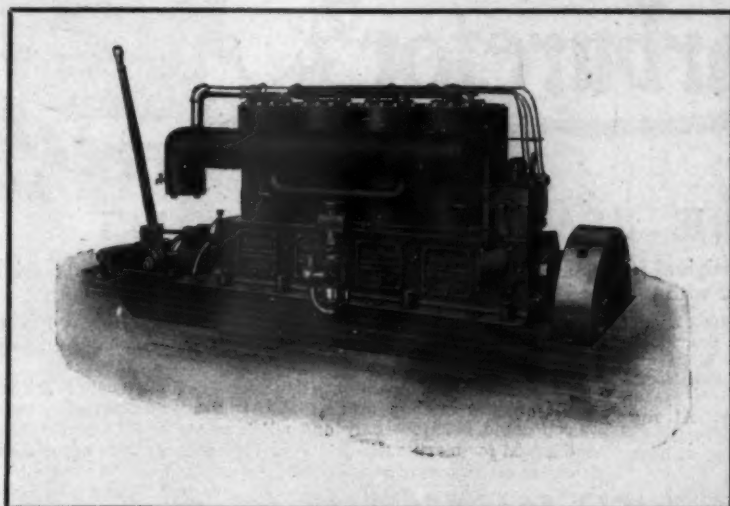
Consider, therefore, that, in addition to these essentials, you can possess in one boat express speed, great seaworthiness, one-man control, luxurious appointments, and accommodations greater in extent than in any other cruiser of like dimensions yet produced.

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Length 40 ft.	Speed 18-20 MPH	Accommodates 6
Length 48 ft.	Speed 20-29 MPH	Accommodates 8

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AUTOMATIC quality—power—economy. This is the combination you must have in order to get satisfactory service. It means cutting down your running cost and freedom from upkeep expense.

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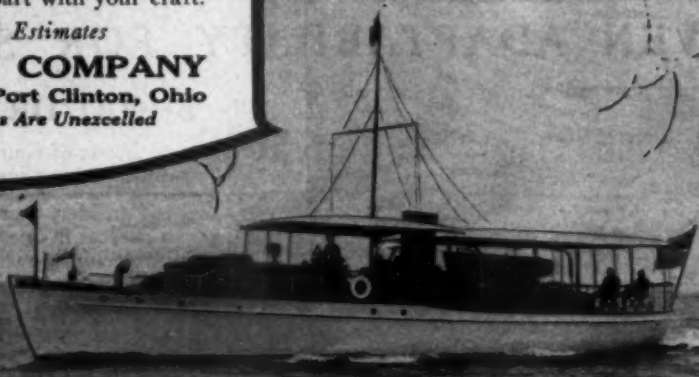
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Kingston "Enclosed Type" Carburetor



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BYRNE-KINGSTON & CO., KOKOMO, INDIANA, U.S.A.**

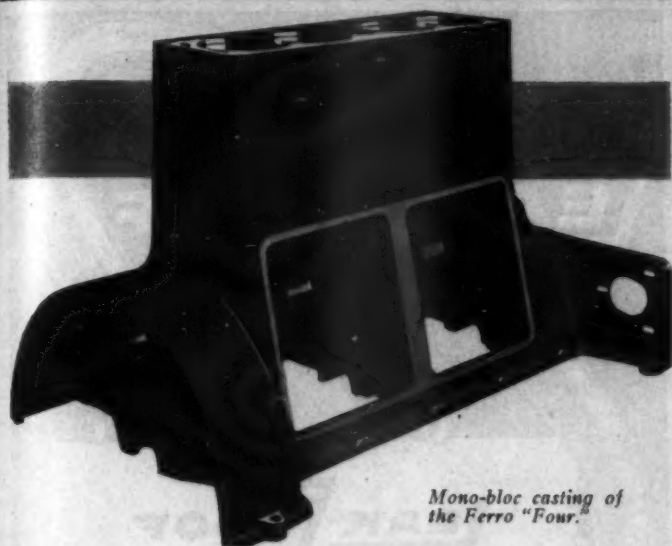
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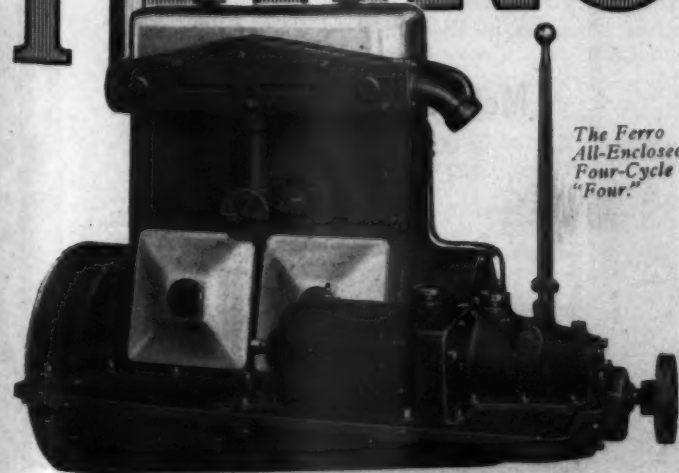
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MARINE ENGINES FERRO



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is the Trade Mark Name of
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LEAK-PROOF is not a descriptive name which can be applied to any make of piston ring. **LEAK-PROOF** belongs to this particular piston ring just as "Uneeda," "Gold Dust" or "Ivory" belongs to a particular biscuit, washing powder or soap.

The success of the **LEAK-PROOF** Piston Ring has bred many imitations which are sold as "leak proof," the name being used as a description only. Sometimes it's a case of deliberate substitution; sometimes it's simply ignorance.

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LEAK-PROOF

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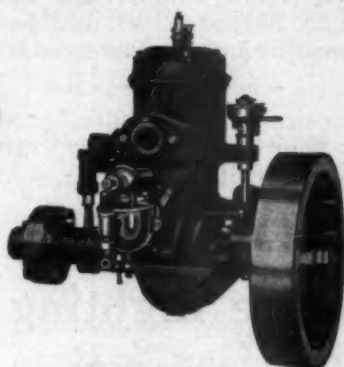
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EAGLE MARINE ENGINES

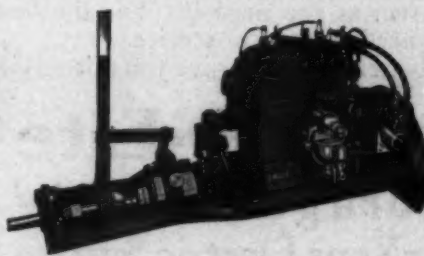
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DO NOT PROCRASTINATE

1916 promises to demand more engines than there are facilities to produce. Manufacturers cannot purchase raw materials and deliver goods as promptly as in the past. There has been an evolution in business, resulting from enormous demands for all kinds of products, with the result that to go in the market today and attempt to secure supplies is almost impossible. Therefore, arrange for your engine requirements *early*, and be sure to arrange with a manufacturer who is likely to render you satisfactory service. You will find it more important than ever this year to use discrimination as to your source of supply.



It appears almost useless for us after 17 years of continuous national advertising and with a business record unsurpassed, to place our merits before you for consideration at this time, nevertheless there are a few of the better class dealers that we feel should be associated with us and selling the most complete and up-to-date line of 2-cycle engines on the market.



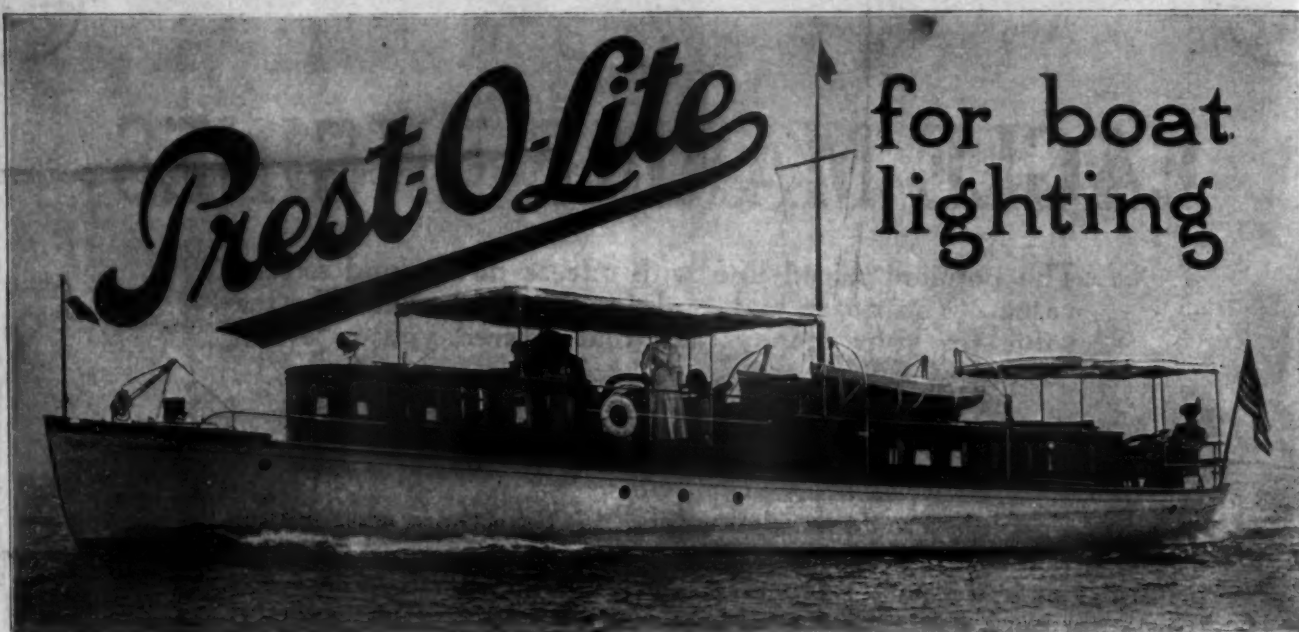
We have a large and varied line to choose from. Our popular-priced high-speed Models have no competition. They are in a class by themselves. They hold all records for speed and horsepower development and their construction is of surpassing quality.

Our Medium-Speed line of Engines is too well known to require any special mention. They have been a standard for 8 years, and the durability of this line is known all over the world, having shipped them to practically all foreign countries.

The Heavy Duty "EAGLE" Engine, for work boats and auxiliary purposes, cannot be improved upon. There are engines of this type in service that have been used continuously for 16 years, which is sufficient evidence of their value.

Therefore, we address ourselves to the live dealer, to the dealer who has an established business, who is sufficiently alert to grasp the importance of representing an established popular line and who realizes the importance and value of an association with an established house.

THE STANDARD CO., TORRINGTON, CONNECTICUT



Nothing is so important to the successful operation of the electric starting and lighting system on your boat as its storage battery. In fact, the battery is the very heart of the system.

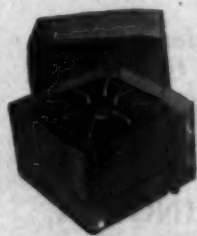
If you are to get the 100% efficient service you need and expect from that system, it will pay you to see that your storage battery is reliable and efficient and that it is backed by a service system you can use—when you need it and as often as you need it. For the best of batteries need the best of service.

Get a battery that will give you this service—

Prest-O-Lite Storage Battery For Your Electric System

Not only is this a better storage battery—it has proved its superiority over other types over long periods of hard service—but it is backed by Prest-O-Lite Service. This service gives you expert battery service through the many Prest-O-Lite service stations and direct factory branches throughout the country. It will bring an end to your storage battery troubles.

Let us send you full particulars regarding this better battery and the service back of it.



Handy Little Stove for Camp Cooking

The Prest-O-Lite Auto Hot Plate provides a compact, complete, portable cooking outfit that can be used with Prest-O-Lite cylinder you use for lighting. Weighs little—6 lbs. packed. Costs but \$4.50. Stem and burner attachment which gives you camp lighting feature, 55c additional. Ask for special circular on camp cooking and lighting.

No boat is so small or large that it cannot be fitted throughout quickly and at low cost for the use of Prest-O-Lite Dissolved Acetylene.

Its use on your boat provides many decided advantages. It is perfectly simple, easily understood and operated, and has proven its dependability and economy through years of satisfactory service.

Many of America's best pleasure boats are using it today. Your boat can be inexpensively equipped throughout with—

Prest-O-Lite Acetylene Lighting For Your Gas System

It furnishes an abundance of light for all purposes—for searchlight, cabin and signal lights. Also easily used with various appliances, which we furnish at small cost, for cooking and engine priming. In addition, Prest-O-Lite acetylene provides a quick, low-cost means of effecting soldering and brazing repairs on your boat.

Complete information on any or all of these points sent free. Ask for them.

Every boat owner, builder or buyer will be interested in our literature describing fully the Prest-O-Lite Battery and Prest-O-Lite Acetylene. Send for either or both—free on request.

The Prest-O-Lite Co., Inc.

The World's Largest Makers of Dissolved Acetylene

U. S. Main Office and Factory:

260 Speedway, Indianapolis, Ind.

Canadian Office and Factory: Merritton, Ontario

53 Branches and Charging Plants

Backed by Prest-O-Lite Service

WINTON

The purchaser of an engine must of necessity take much for granted. He cannot have intimate knowledge of the degree of excellence represented in the engine he buys.

As a rule therefore, entire dependence is placed in the engine builder to make his product measure up to the standard expected of it.

Modernism

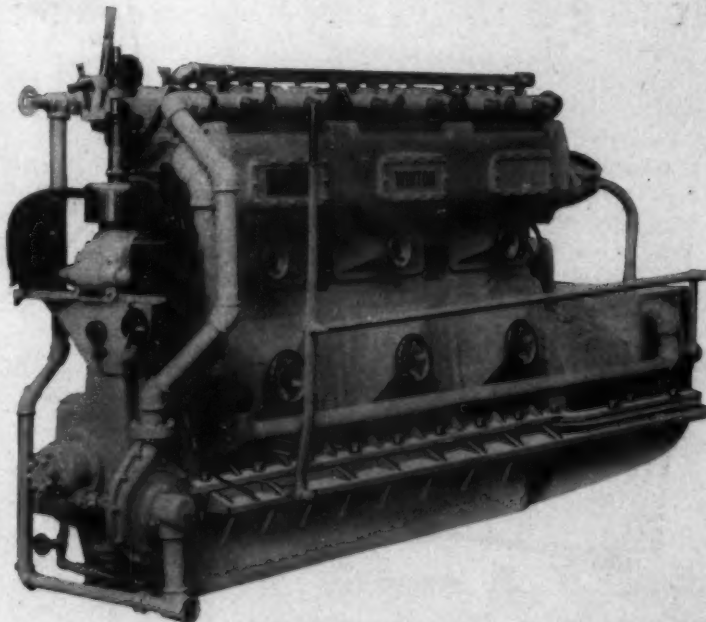
The manufacturer whose design is antiquated, whose methods are obsolete, cannot do this. However good such an engine may have been in the past, it is not to be classed with the machine of modern design and construction.

Winton engines are modern. In their design precedent was followed only so far as was compatible with progressive ideas. In construction, special tools have injected a new element of quality.

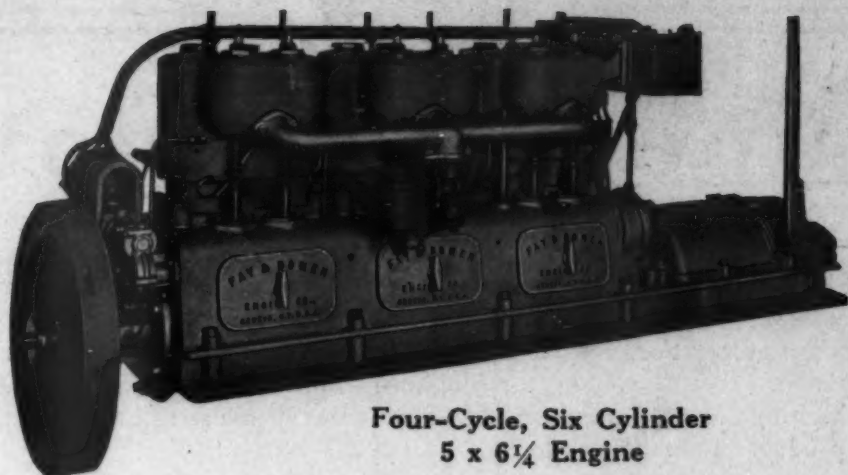
That the high quality of Winton engines will be upheld in every particular is the purchaser's protection and our guarantee.

*For complete information
address*

**Winton
Engine Works**
Cleveland, Ohio



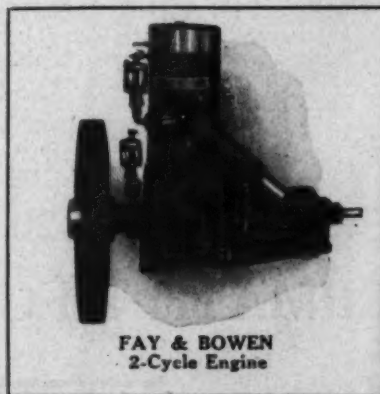
FAY & BOWEN ENGINES



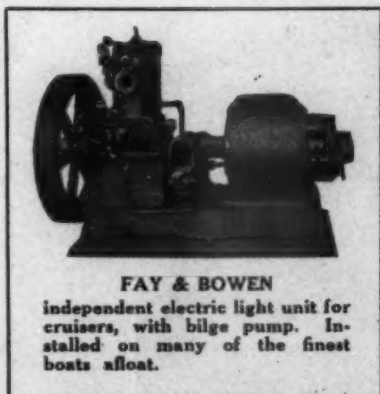
Four-Cycle, Six Cylinder
5 x 6 1/4 Engine

SATISFY THE BUYER

WHATEVER your engine or boat requirement, Fay & Bowen will satisfy them *all*. Four-cycle engines—two-cycle—complete power boats—*independent electric lighting units—pumping sets, etc., etc.* "None Better Built."



FAY & BOWEN
2-Cycle Engine



FAY & BOWEN
independent electric light unit for
cruisers, with bilge pump. In-
stalled on many of the finest
boats afloat.

FAY & BOWEN ENGINE COMPANY

104 Lake St., Geneva, N. Y., U. S. A.

Made in Canada by the St. Lawrence
Engine Co., Ltd., Brockville, Ont.

KERMATH

Marine

Motors

Quality Motors at Quantity Prices

Ten years ago Henry Ford startled the world when he proposed to sell a four-cylinder automobile for \$500. Today he is selling half a million bigger and better cars each year, and selling them for one-third less. Standardized manufacturing methods and quantity production are the reasons.

Standardized manufacturing methods and quantity production are the reasons why we can build such a motor as the Kermath, and sell it at such a price. It is a strictly high-grade motor—as good as any owner could want. There is nothing cheap about it—except the price—and that is not so low that anyone would call it a “cheap motor.”

There are ten customers for a Kermath to every one buyer of an ultra high-priced motor of the same size. By building ten Kermaths to the other builder's one we secure real economy in production.

The Kermath is a thoroughly good motor all the way through. It is an economical motor and a reliable motor. The four cycle design is of the most approved type. The materials we use are the best. The workmanship is as good as it ought to be. The motor makes good in strenuous service. We couldn't afford to build a motor that wouldn't make good, for we have to depend on Kermath owners to preserve the Kermath reputation.

When you come to buy a motor, look around as much as you like. But don't fail to investigate the Kermath, in justice to us and to yourself.

Write today for full details and prices

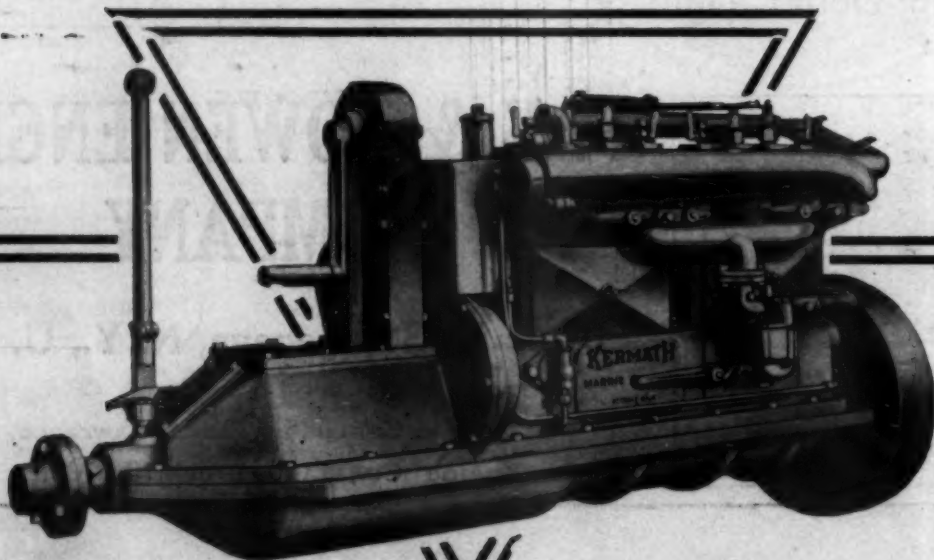
12-16-20 H.P.

\$195 to \$375

KERMATH MFG. CO.

DEPT. 2

Detroit, Mich.



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